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Staff

Editor	**Lynn Favour**
Editor	**Heidi Walter Powell**
Associate Editor	**Paul Kron**
Associate Editor	**Elizabeth Morton**

Cover photography by Paul M. Kron.

Photographic contributions by Paul M. Kron, Heidi W. Powell, Robert D. Atkinson, Southern Growth Policies Board, and the U.S. Department of Energy.

Graphic contributions by Paul M. Kron, Stephen J. Walsh, Triangle J Council of Governments, Catawba County, and Facts on File, Inc.

Editor's Note

North Carolina stands at a crossroads. As its cities experience continued economic growth, its rural areas lag far behind. Decisionmakers face profound choices concerning the allocation of resources among education, industrial recruitment, and infrastructure improvements. Should the state concentrate its resources on developing a "World Class Region" in the Research Triangle or should it reallocate them to bring renewed life into its rural counties?

In this issue, *Carolina Planning* focuses on the direction of economic development in North Carolina. The unique perspectives of both planners and politicians show a state working to meet the needs of its extremes. Jesse White's keynote address explores the growing disparity between "two Souths": one rural and poor; the other urban and wealthy. Representative Josephus Mavretic highlights this juxtaposition in his critique of North Carolina's policy of "balanced growth", calling for a more equitable distribution of the state's infrastructure resources.

In the first of three articles on development strategies, Professor Dick Levin describes the role of small enterprises in the future of state economic development. Following Levin's broad perspective, Robert Atkinson examines the value of incubators as one tool for small business creation. County Manager Thomas Lundy documents Catawba County's development efforts in strategic planning.

Two articles detail activities in the prosperous Triangle area. The work of the Triangle J Council of Governments reports on regional planning initiatives; Professor Edward Bergman argues for a refocusing of the Triangle's development strategies to meet its new responsibilities as a metropolitan region.

Included in this issue is a special addition: papers illustrating the breadth and variety of current research in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill.

Thomas Wolfe said, "North Carolina needs honest criticism — rather than the false, shallow 'we are the-finest-state-and-greatest-people-in-the-country'. . . An artist who refuses to accept fair criticism of his work will never go far. What of a state?" This issue records both criticism and praise for a state facing rapid change and a call for directed leadership to guide it into a healthy future for the 1990s.

Lynn A. Favour
Editor

Carolina Planning welcomes comments and suggestions on the articles published and will be happy to accept new material for future editions from interested persons. Such material should be submitted to the Editor typewritten and double spaced.

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In the Works

1988 Annual Conference Alumni Association of the UNC-CH Department of City and Regional Planning

Carolina Planning Staff

The Alumni Association of the Department of City and Regional Planning at the University of North Carolina at Chapel Hill (DCRP) held a planning symposium and its first annual business meeting from February 5–7, 1988, at the Carolina Inn.

The symposium featured alumni and student presentations on current professional topics. Discussion topics included: state initiatives in economic development and technological policy; professional ethics; planning for large scale institutions; information systems; and planning education. In addition, alumni offered students informal job counseling sessions and scheduled interviews for permanent and summer employment.

Jesse White, Executive Director of the Southern Growth Policies Board, delivered the keynote address (reproduced in this issue) on the future of economic development in the South.

State Initiatives in Economic Development and Technological Policy

Professor Edward Bergman, referring to states as "laboratories of democracy," moderated the state initiatives panel. Ph.D. candidate Robert Atkinson discussed states' use of technology for economic development. He explained that states' past activities had failed to link technology and economic development until the 1970s, when states began looking to technology to help solve social and environmental problems. Today the link is stronger: states are moving away from "smokestack-chasing" toward new and small business creation. States can use technology even more effectively as an economic development tool. First, most states spend a great deal of money on university research, though there are many other ways to stimulate technological innovations (e.g., providing capital and management assistance). Second, states tend to take a passive approach to profit and to technology in general: they see information, defined as data bases rather than personal communication, as the key to technology transfer. But interpersonal links between capitalists and entrepreneurs is the key.

Mary Beth Dugan, of the Southern Growth Policies Board, presented preliminary findings of a study on automated manufacturing in the South. Dugan said that the states' economic development efforts discussed by Atkinson "did not seem to matter to rural manufacturers," who did not take advantage of industrial extension services or other local information resources. Although the target of such services is small independent businesses, the study found no small automated firms. Perhaps the study's most startling conclusion was that few jobs had been lost as a result of automation: only four percent of firms surveyed said that jobs had been lost; 15 out of 51 said employment had actually increased after they had automated, due to the need for engineers. The fact that healthy firms tend to invest in automation might explain these figures.

Scott Bollens, of the North Carolina Commission on Jobs and Economic Growth, cited examples of North Carolina's economic development and technology initiatives, including the Microelectronics Center and the state's bids for Sematech and the Supercollider. Bollens addressed the problems of "policy, money, and politics" in his discussion of technology transfer, job training, and the provision of venture capital. The state-supported system of technology transfer centers is one of the most innovative in the country, but it is not without problems.

Job training is another area in which North Carolina is being innovative. The Jobs Training Partnership Act is being supplemented by state-funded programs; in addition to the traditional focus on dislocated workers and young workers, the state is focusing attention on the existing

Panel members discuss "Planning Education: Needs for the Nineties."

labor force. The "New and Expanding Industry Program" trains labor force participants changing jobs through the state's community colleges. The "Cooperative Skills Program" upgrades skills. Finally, North Carolina is the first state to use the interest from a portion of its unemployment insurance fund to create a worker training trust fund.

DCRP's Associate Professor, Michael Luger, spoke briefly on the problems with state economic development efforts. According to Luger, there are not enough appropriate programs, yet there are too many inappropriate ones. He suggested problems inherent in North Carolina's existing institutional structure: the Governor and Lieutenant Governor are from different parties; the position of Governor is weak; cabinet positions in the Department of Commerce and in the Department of Natural Resources and Community Development are outdated; state universities are losing faculty; and separate county school districts are creating inequities between rich and poor areas.

Ethical Issues in Planning

Tim Beatley, Assistant Professor at the School of Architecture, University of Virginia, coordinated the panel on the role of ethics in planning. Beatley initiated the discussion by raising broad questions concerning the role of ethics in professional practice and the ethics of planning methodologies and policies as tools for making decisions.

Michael Brooks, of the Department of Planning at Virginia Commonwealth University, perceived planning issues as falling into two categories. Microethics are applicable to individual matters, such as conflicts of interest, and macroethics encompass the group behavior of the profession as a whole. Brooks felt that the focus of attention should shift to include a more concentrated examination of issues on the macro level. He noted that the field has evolved from past decades, in which sensitivity to ethical issues ran high, to the present, when planning is more "system maintaining" than "system challenging."

David Brower, of UNC-CH's Center for Urban and Regional Studies, pushed for the definition of principles within the profession to guide practitioners and provide them with a framework with which to act on issues faced within their individual specializations. Complicating the search for "principles to live by" are questions such as "what constitutes citizen participation," and "to whose interests is a mass transit plan responsible?"

Former Durham City Council Member Lanier Rand Fonvielle found parallels between the ethical dilemmas within the planning profession and the bioethical issues faced by those in the health care field. Although planners do not face the life and death situations of doctors, they do encounter issues that directly affect the quality of peoples' lives. Fonvielle stressed the value-laden realm of planning and the need for explicit revelation of motives and ideals. She felt that assumptions must be overtly presented in order to rationally consider the objectives of a decision.

The topics raised by the panelists sparked a lively discussion following the presentations. Challenges posed by "wicked dilemmas"– troubling situations in which ethical principles conflict and in which the ongoing nature of the problem allows few solutions – spurred debate. Would standards help in such a situation or are personal standards all that professionals can rely upon? While definitive answers proved difficult to find, these questions allowed for an extensive examination and affirmation of the value of professional standards, even if those standards are incomplete guides for professional behavior.

DCRP Student Presentations

Three of DCRP's Master's degree candidates delivered papers at the conference. The topics covered by the presentors included proposals for increased water conservation, plans for a bicycle route system in Winston-Salem/Forsyth County, and opportunities for the redevelopment of the Schuylkill Falls public housing project in Philadelphia.

Mark Shea evaluated studies presently used to determine the effectiveness of water saving measures implemented during times of drought. He proposed three distinct recommendations to stress the need for greater water conservation provisions in water resource planning efforts: demand modification through water saving devices, educational efforts, and price incentives; adoption of drought conservation ordinances; and cooperative regional planning initiatives, which would coordinate the provision and sale of water and achieve a more efficient system of distribution.

Herbert Posner assisted in the design of a bicycle route system in Winston-Salem/Forsyth County. The proposed city routes will serve the entire metropolitan area, and

connect to the county routes, which will extend into all sections of Forsyth County. County routes will also feed into county parks, and to the North Carolina Mountains-to-Sea Bicycle Highway, south of Winston-Salem. The area's hilly terrain complicated the system's design, restricting routes to hills with slopes of eight percent or less. A joint committee of citizens and government officials recommended additional routes and bicycle lanes along roads scheduled for widening.

Michael Cohen described his work with Rouse Urban Housing (RUH) in planning for the redevelopment of a 5.5-acre portion of the Schuylkill Falls public housing site. RUH is a Philadelpia-based development firm, specializing in the creation of affordable homes, apartments, and commercial space. This visible and controversial project presented the opportunity to create a large-scale affordable housing development.

Planning Information Systems

Bill Drummond, of the Georgia Institute of Technology's Department of Regional Planning, directed an instructional session on planning information systems. Composed of computerized overlays of geographic data, Geographic Information Systems (GIS) provides a powerful tool for the storage, retrieval, and analysis of spatial information. Planners are increasingly using GIS to maintain flexible data bases of land characteristics and to perform suitability analyses of land for development. Drummond explained the structure of the system and its advantages over earlier spatially-based information systems, such as Atlas Map and Autocad.

Jon Lockman, a planner with the City of Winston-Salem, lent a practical perspective to Drummond's description through his discussion of Winston-Salem's recent efforts to install a GIS system (see article this issue).

Dr. David Godschalk, professor of planning at UNC-CH, described the Triangle J Council of Governments' work toward developing a consistent land classification plan for the tri-county area. In cooperation with Triangle J and the Sierra Club, the planning and geography departments at UNC-CH are using GIS to construct a regional data base capable of supplying accurate, up-to-date land information. Triangle J will use this database to develop a regional land classification system that will enable local decisionmakers to plan more effectively for the regional impacts of growth.

Planning Education: Needs for the Nineties

This session, moderated by David Godschalk, was unique in the conference, as the presentors were divided into two sections, representing the perspective of either a practitioner or an academician.

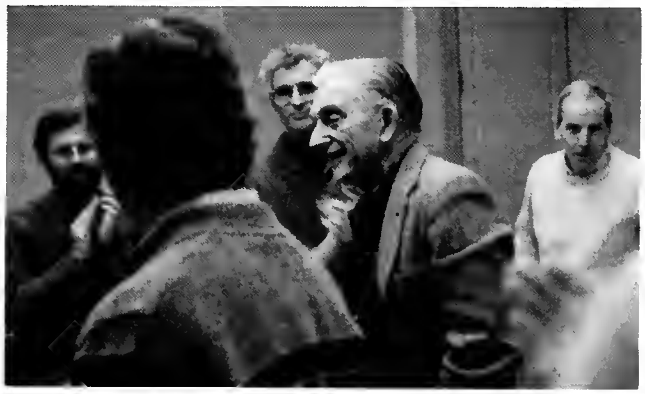
David Rice, Executive Director of the Redevelopment and Housing Authority of Norfolk, Virginia, set the tone for the session with his assertion that "planners should do things, not review things." Planning education should not consist solely of policy analysis, he stated, but needs to include a much greater emphasis on physical planning. This refocusing would provide students with a better understanding of how cities develop and serve as a basis for practitioners in using land use regulations and zoning ordinances as tools to shape the urban environment. Rice also stressed the importance of balancing professional skills with exposure to human development skills. The ability to negotiate and to work as a team have become crucial, as the role of a planner is increasingly becoming that of a manager.

Although Wilbur Smith Associates is primarily an engineering consulting firm, Dennis Daye described his use of the broad base of skills he acquired at DCRP in his position as the company's Planning Director. He outlined five components of a planning education necessary to give practitioners the ability to function effectively.

A crucial part of any planning curriculum, according to Daye, is legal training. Decisions planners make about zoning and the issuance of permits, for example, require a strong understanding of the legal system in order to be successfully defended in court. Similarly, a familiarity with environmental issues facilitates communication with environmental experts about the implications of a planner's actions on air and water quality.

Although social policies have occupied planners for a number of years, Daye stressed that the quality of the physical environment is a crucial determinant of the overall quality of life of a region. The adaptive use and rehabilitation of older buildings, for example, can play an important part in an overall urban revitalization strategy. These issues highlight the importance of land use courses in the planning curriculum.

Courses in economics illuminate the implications of urban policies on a city's economy and an understanding of public finance provides a basis for evaluating types of



Jim Webb receives a warm round of applause as the establishment of a fund in his honor is announced.

public improvements and financing techniques. Finally, Daye echos Rice's assertion that, along with these more quantitative aspects of a planning education, strong written, oral, and interpersonal communication skills are essential for a practitioner to perform effectively throughout his or her career.

Sergio Rodriguez offered insight into societal trends to which planners need to be prepared to respond. In his presentation, he often referred to specific problems that confront him in his position as Planning Director for the City of Miami, including the homeless population, illegal immigrants, crime prevention, and the special needs of the elderly, minorities, and AIDS victims. Rodriguez believes that the nation is experiencing a resurgence of a social conscience, and this phenomenon may facilitate the ability of planners to address these societal problems in the coming decade. However, due to the diminishing availability of financial resources, practitioners must learn to creatively "do more with less." Rodriguez stressed throughout his discussion that it is imperative to infuse the planning field with a greater number of trained minorities.

According to William McNeil, Director of Planning and Development for the City of High Point, North Carolina, the "new economic realities" the country will face in the nineties will force planners to renew their attention to the plight of the poor, and require the profession to adopt a more wholistic, "interconnected" view of the world. Planners will need to develop managerial and analytical skills to develop effective programs, but in order to be more than just a sophisticated manipulator of data, a planner must have the ability to supersede old models and create new ones when faced with new realities.

Bruce Stiftel, of the Department of Urban and Regional Planning at Florida State University, introduced the academic perspective. He questioned the applicability of the term "planning," as defined by the APA, Friedman and Hudson, and others, as a label for the diverse group of practicing professionals. He pointed out that many planning school graduates employed as policy analysts or environmentalists, for example, do not consider themselves "planners." Stiftel felt that the curriculum offered by most departments could be expansive enough to encompass the variety of issues faced by planners, but called for an end to the reliance on the "modal examples" usually offered by instructors and a broadening of issues covered in journals. Although a significant portion of professional activity continues to revolve around long-range planning, local land use decisions, and the preparation of documents, the perpetuation of this limited "manifest definition" of planning narrows the frame in which the field and its opportunities are presented to students.

Ralph Gakenheimer continued Stiftel's critique of the limited perspectives offered by most planning curricula in his description of the field's "tempocentricism." He accused planning schools of concentrating on topics that are "in fashion," such as strategic planning and negotiation, to the exclusion of other issues that may be important.

Gakenheimer teaches Third World transportation planning at MIT, and stated that, in instructing students from developing countries, professors cannot afford to be tempocentric; they must teach both what is "in" and "out" of fashion. In addition, planning departments should not fall into the trap of condemning past thought as "wrong," in an attempt to establish a "state-of-the-art" program.

David Loeks, of Virginia Polytechnic University, concluded the session by stating that, for planning schools, "the mission is broadening." Due to the growing reliance upon technology and the increasing degree of global competition and interdependence, many of the conditions that planners will face in the 1990s remain unknown. Therefore, the overall goal of education should be to train planners to be "generic thinkers and problem-solvers."

Overreliance on the rational model, however, will "train the creativity out of" students. Loeks reasserted the view of the practitioners on the panel in his call for the reintegration of physical design and policy; planning departments must not forget how powerful a tool design is in guiding policy. Training based on empirical knowledge alone is not sufficient. Only by admitting alternate sources of knowledge, such as design, will students be able to develop the wholistic and intuitive framework necessary to adapt to the complex world of the 1990s.

Final Events

Following the panel presentations, two tours were offered. Pearson Stewart, Vice President for Planning of the Research Triangle Foundation conducted a tour of the Research Triangle Park. Roger Waldon, Director of Planning for the Town of Chapel Hill discussed "Planning for the Growth of a Large Institution," in his tour of UNC-CH and the Memorial Hospital Medical Complex.

The conference concluded with the annual meeting of the Alumni Association. The agenda included the amendment and ratification of the organization's by-laws, nomination and election of officers, and a discussion of the association's plans for the future. □

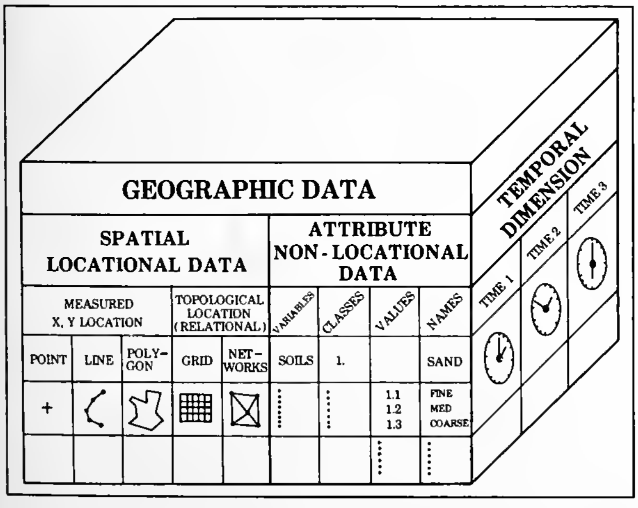
Geographic Information Systems: Overview and Applications

Patricia M. Santos
Jon Lockman

As a relatively recent technological innovation available to planning offices, a Geographic Information System (GIS) is a computerized system for managing information about features on the earth's surface. The analytical and management capabilities of this type of system offer a wide range of uses for planners, allowing them to work with the Tax Assessor's Office, Public Works Department, Parks and Recreation and other agencies, in providing services and infrastructure to a community as it grows and develops.

What is a "GIS"?

A GIS is a data base management system with a spatial component, providing output in the form of text, quantitative analysis, and graphics. Using a coordinate system such as longitude and latitude, a state coordinate system, or parcel identifiers, spatial information is documented to identify the location of various parcels. Non-spatial information describing the attributes of a specified location, including parcel ownership, zoning designation, type of development, or infrastructure, is also entered into the system as data sets or layers. These layers and the coordinates are then linked, to overlay the data sets and to identify various features on a particular parcel of land.



Conceptual components of a GIS.

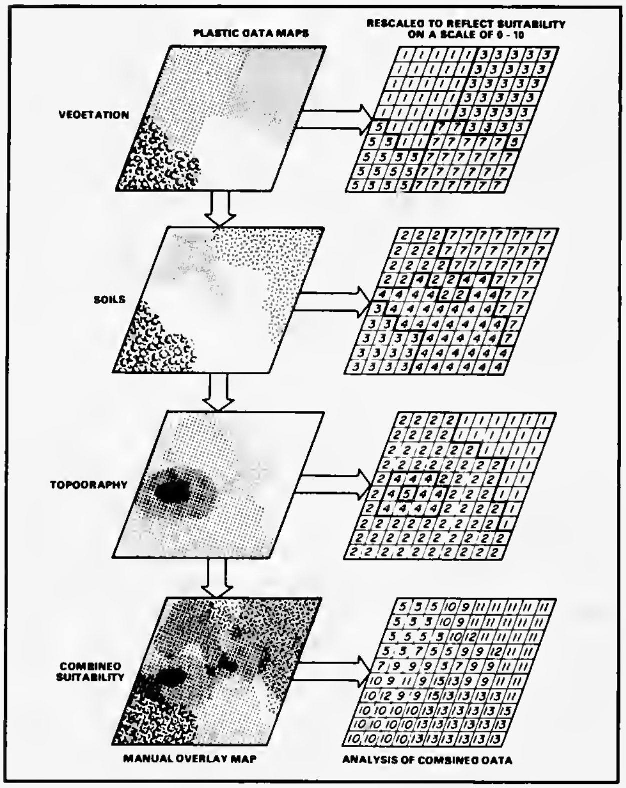
Applications

Once documented within the GIS, different layers of information can be used to locate parcels meeting a specific set of criteria. For example, the user can program the system to identify parcels that are vacant and zoned commercial/industrial, and get a map highlighting all such parcels as output. A GIS stores, retrieves, manages, and analyzes planning information.

These systems are extremely expensive, ranging from about $100,000 to $1 million, with an average of 80 percent of the cost related to the initial data collection. Once a GIS is on-line, however, it can cost less and do more than a manual system. Due to the high front-end costs, it is most efficient for several municipal departments, such as the tax office and the planning and public works departments, to share a single system. In this way, the agencies most concerned with a given data set will collect and maintain the information, the costs will be spread over a larger group, and inter-agency coordination will be facilitated.

A wide range of data can be used within a GIS, to include planning information about zoning, land use, permits, and planning districts; boundary and property ownership data; physical characteristics such as water, land cover, soil types, and elevation; political information such as electoral districts, administrative districts, and police and fire zones; demographic data such as census tract information; and infrastructure data such as transportation, recreational facilities, and utilities.

Planners can also use a GIS in their routine tasks to present a reliable and wholistic picture of existing conditions. Using growth projections, the system can model impacts and outcomes of various planning scenarios, such as zoning changes. It can help identify the best land to acquire or to bank, or which development rights and easements to purchase. A GIS can perform suitability analyses and can include as many weighted factors as the decision-maker considers important. Similarly, it can determine carrying capacity quickly and easily. For each of these uses, it can determine if a given parcel is appropriate, as well as identify all parcels that would be appropriate for a particular use.



Production of thematic overlays through grid cell coding.

One of the most obvious and straightforward applications of a GIS is in site selection for development activities. Once a set of criteria is established, both public and private agencies can use the timely and accurate data of a GIS to find acceptable or unacceptable locations for a given activity. Using these criteria, a planner can program the system to identify all matching parcels. These selected parcels can then be reviewed further, to determine their appropriateness for the desired activity. In this way, a GIS can eliminate the time and costs associated with physical inspections of all possible parcels, office visits to determine the availability of infrastructure, and title searches to identify restrictive easements. The system can identify a number of parcels meeting the criteria, allowing more flexibility in selecting a site, while additional criteria such as social impacts can be used in the final selection process.

In addition to site identification and selection, a GIS can be an integral part of the everyday activities of a department, allowing for interactive updating and close monitoring of the cumulative effects of development. By including newly approved projects, as well as applications for development still within the approval process, the system can allow local governments to make decisions based on the effects of all development, not just on each individual application. The impacts on infrastructure capacity and future needs can also be a part of this ongoing, cumulative approach to development approval.

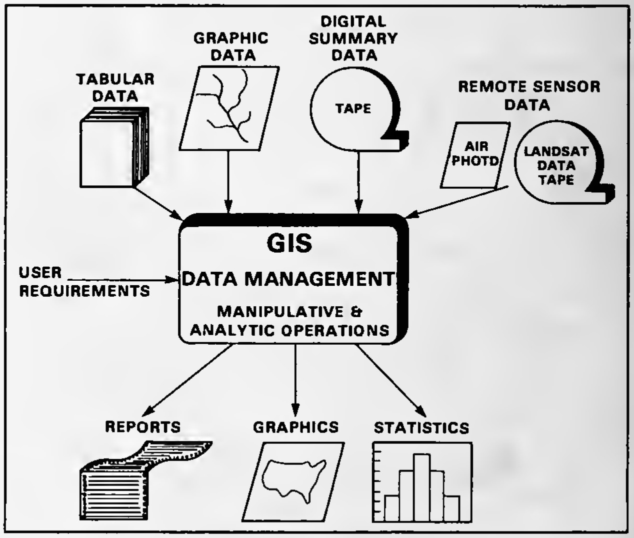
A New GIS System for Forsyth County, North Carolina

One of the North Carolina planning institutions that has begun to utilize a GIS is the City-County Planning Board of Forsyth County and Winston-Salem. The County Tax Supervisor's Office acquired a Synercom system over five years ago, and is about to complete the digitizing of all of the tax lots in Forsyth County. A staff of twenty-seven digitizers working in three shifts around the clock has made this monumental task possible. The City-County Planning Board was hooked up to this system in the spring of 1987, and can now have access to updated tax block and lot mapping at virtually any scale.

However, the Planning Board is a long way from being able to tap the full potential of this system. The most exciting aspects of GIS analysis, linking spatial and attribute data, are not yet possible. The most fundamental problem is that Forsyth County's attribute data, such as property ownership, appraisals, and land use codes for each parcel, are stored on a Burroughs mainframe system. The Synercom system cannot "talk" to the Burroughs system without special programming. The Planning Board has not been able to obtain the programming support necessary to create this vital link.

Institutional impediments limit the speed with which the Planning Board can achieve its GIS objectives. Computer time and data storage must be shared by the Planning Board and the Tax office. Tax office workers can hardly afford the time to train new users on the system. In addition, attractive private sector positions often lure away key personnel.

Yet, just having an accurate map base showing property lines, rights-of-way, and water courses at a variety of scales, has been of tremendous benefit to planning in Forsyth County. The Planning Board hopes to add new layers



Role of the Data Base Management System with the GIS.

Jon Lockman describes Winston-Salem's use of its GIS.

to the system such as topography, soil types, and zoning. Digitizing zoning lines will be problematic, because the existing zoning districts were hand drawn on planimetric maps without property lines, at a scale of 1 inch = 400 feet. When these existing zoning maps are overlaid onto the GIS output of tax lots, numerous discrepancies appear in which zoning district lines are somewhat "off" from property lines. Moving zoning lines more than 50 feet requires legislative action in Forsyth County, so this project will have tremendous political implications.

Conclusion

A Geographic Information System offers planners an integrated way to manage and review information about the complex environment in which they work. It is a tool which offers a wide range of applications and possibilities to those who seek new ways of developing plans and implementation strategies in the information age. □

FURTHER READING

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Hysom, J.L. Jr. et al. 1976. "Urban Development Information System: A Handbook (Summary)". In: *Management and Control of Growth,* Volume 2. Urban Land Institute, Washington, D.C.

International Journal of Geographic Information Systems. First volume published January 1987, Taylor & Francis, New York.

URISA Proceedings. Urban and Regional Information System Association, an organization which publishes the papers its members present at the annual meetings. The past two years (1986 and 1987) have a large number of articles on GIS.

Patricia Santos is a second year Master's candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill. Her area of concentration is in Land Use and Environmental Planning.

Jon Lockman is a planner for the City/County Planning Board of Winston-Salem/Forsyth County.

Graphics are taken from "Geographic Information Systems An Instructional Tool for Earth Science Educators," written by Stephen J. Walsh, which appeared in Volume 87, Number 1, of the *Journal of Geography,* published by the National Council for Geographic Education.

A World Class Region
Putting Vision into Action

Raymond J. Green, AICP

On December 2, 1987, over 500 people gathered in Raleigh to craft a plan of action addressing eight issues of regional concern. The event that drew them together was the World Class Region Conference, sponsored by the Triangle J Council of Governments.[1]

The Conference

The opening remarks were delivered by Avery Upchurch —Mayor of Raleigh and Chairman of the Triangle J Council of Governments and James B. Hunt, Jr.—former Governor of North Carolina and Chairman of the Steering Committee that planned the Conference.

The eight issues addressed at the conference fell under four broad headings, with two areas of concern under each heading. Under Physical Development, the issues were Regional Land Use Priorities and Regional Transit. Economic Development included a World Trade Center and a Regional Telephone System. The Human Resources and Education issues were Education and Dependent Care. The fourth heading was Environment and Energy which included Water Supply Protection and Development and Solid Waste and Recycling.

Each of the eight topics was introduced in plenary session by a community leader. Later, in concurrent discussion groups, the issues were examined in depth. Many recommendations were made in the discussion groups and, in each case, it was decided that a task force should be established to flesh out the details of a plan of action.

Planning the Conference

In January, 1987, Mayor Upchurch enlisted former Governor James B. Hunt, Jr. to chair a steering committee to plan the conference. Governor Hunt agreed, on the condition that the conference would result in an action agenda. With that assurance from the Council of Governments' leaders, the steering committee was appointed. Sixty-four members participated actively in conference-planning meetings over the ensuing eleven months. The steering committee's work culminated in the identification of the eight issues named above as the areas in which action is needed. They also determined that regional cooperation is necessary to successfully deal with these concerns.

The committee realized that they might be criticized for designing a conference around a pre-selected set of issues, rather than allowing the issues to be identified by conference participants. However, they were convinced that pre-selection would be necessary to focus the conference, and to come out with an agenda for specific actions that could be accomplished within a reasonably short time period. The committee felt that previous conferences to identify issues, while useful in illuminating those issues, did not always result in a practical plan of action with which to deal with them.

After the Conference

Task forces or "teams" have been formed around each of the eight issues. A leader has been appointed for each of the teams, and work plans and schedules have been adopted. Each of the eight issues is complex. Some of the teams have broken the issues down into sub-issues, and a "focus group" has been formed around each of them. The Regional Land Use Priorities Team is typical.

Regional Land Use Priorities Team

The charge to this team is to develop a regional land use plan, based on the plans adopted by cities and counties in the Region. At their first meeting, the team decided to approach the issue on four fronts—Open Space, Housing, Transportation and Economic Development. A focus group has been formed around each of these sub-issues to examine the relationship between land use patterns and each of these particular sub-issues.

Open Space Focus Group: The Triangle J Council of Governments has been developing an inventory of regionally significant open space independently from the work of this focus group. The focus group is now in the process

of expanding the inventory, to include privately-owned open space in particular. They will prepare and recommend a regional open space plan, including goals or standards, plan implementation measures, funding sources, a listing of principal agencies involved in open space and recreation, and other topics relating to the plan. These recommendations will be presented to the Regional Land Use Priorities Team.

Transportation Focus Group: This group is studying major employment and population centers, present and future, in order to formulate recommendations about the relationship of land use and transportation corridors. The larger cities in the Region have thoroughfare plans of fairly recent vintage (a major revision of the thoroughfare plan for the greater Durham/Chapel Hill/Carrboro urbanized area is now under review). The focus group has mapped locally-adopted thoroughfare plans.

Housing Focus Group: The Housing group will recommend regional housing goals and, based on expected income and population levels, will forecast the number and type of housing needed. As in most of the nation, an ever increasing number of the Region's families are caught in the housing squeeze. For several decades, the cost of housing has rapidly risen beyond the reach of both low and moderate income families in addition to many middle-income families.

Economic Development Focus Group: The location, size and quality of water supply facilities, sewers and other infrastructure can be a major determinant of land use and of the economic development of the Region. This focus group will examine the existing infrastructure systems and policies, and make appropriate recommendations.

Regional Transit Team

This team is working as a committee, to examine the legal, institutional and financial aspects of a regional public transit system. Although there are three intra-city bus systems in the region, they are not inter-connected. Intergovernmental agreements, whereby the three systems could be linked are one arrangement the team will investigate. Another possibility is a regional transportation authority, which would operate a bus service in the presently unserved portions of the region, and would assume the operation of the existing systems. The possibility of linking several cities with rail service, using existing tracks, will also be considered.

World Trade Center Team

The Triangle J region is increasingly linked to other nations through exporting by local firms, investment in the region by foreign firms, and international travel.[2] Keeping the wheels of world trade turning requires the expert services of lawyers, accountants, brokers, importers, exporters, and other specialists. A world trade center would provide a central place for these specialists to meet and "network," facilitating the exchange and dissemination of information and assistance. In many trade centers, space is also provided for the display of local products for export. The World Trade Center Team is investigating the feasibility of establishing such a center in this region.

Regional Telephone System Team

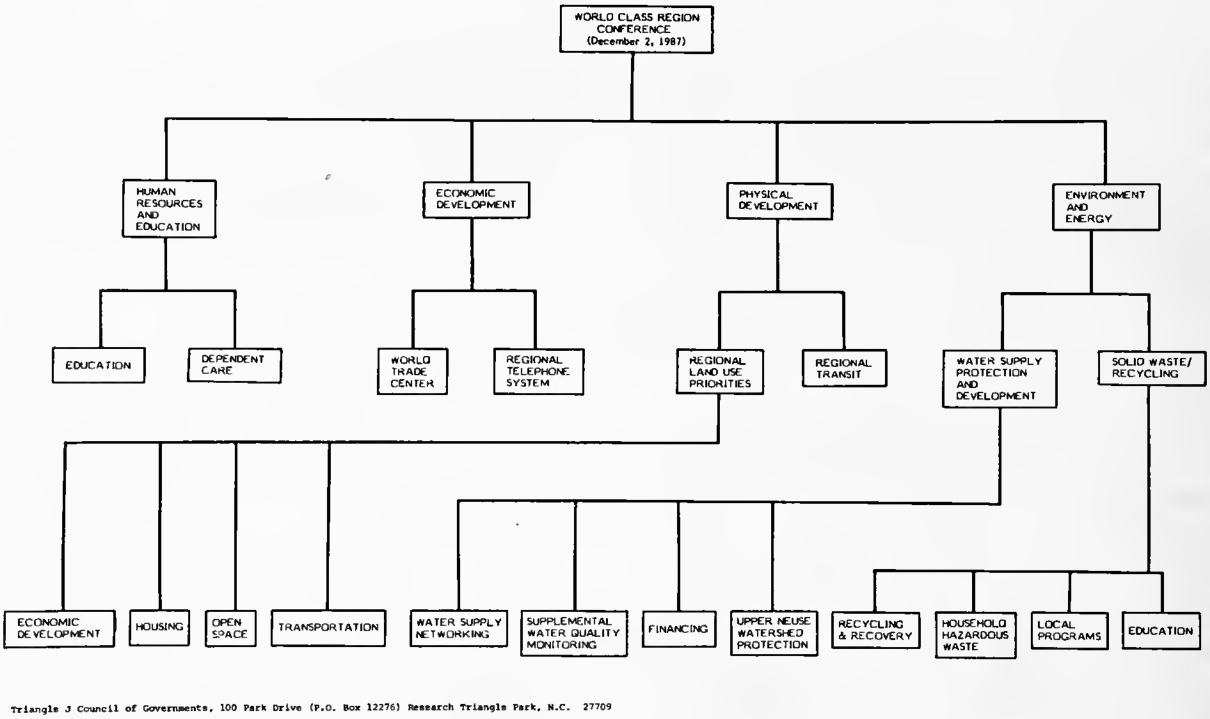
This team is working toward a toll-free telephone system throughout the region. Their first priority is to bring about such a system in the three most populous counties of the region (Durham, Orange and Wake), followed by expansion to interested communities in the region's other three counties (Chatham, Johnston and Lee). The team believes it should be as easy to phone from one end of the region to another as it is to phone from one end of town to another. Currently there are seven local telephone exchange companies serving the region. As a result, toll charges must be paid for calls between Chapel Hill, Durham and Raleigh. The team has filed a formal request with the NC Utilities Commission, has presented oral and written testimony at the Commission's hearing and awaits a ruling.

Education Team

Although quality education is recognized as one of the highest priorities of the region, the Triangle J Council of Governments has not previously had programs in education. Until now, most of the Council's programs have been directed at the physical and economic development of the region, and protection of the environment. Consequently, the education team started "from ground zero," and their objectives are not as well defined as those of some of the other teams. They have decided, however, that they will concentrate on long- and short-range strategies to strengthen K-12 education throughout the region. Possible strategies include establishing a model school to serve the region, or developing an educational network whereby business leaders, government officials or other individuals with special skills or expertise would share their knowledge with students.

Dependent Care Team

This program area is also a new one for the Council of Governments. The increasing number of families with both parents working outside the home has brought day care to the top of the priority list for this region and, indeed, for the entire nation. The increasing age of the population indicates a need for adult dependent care as well. To meet these needs, the dependent care team is pursuing several goals. Various approaches being considered



Task force and focus group flow chart.

include: devising new ways of linking the education resources of public schools with the day care community; developing educational materials about dependent care; improving visibility within business and civic organizations on the need to expand dependent care options for employees; and convening a workshop on inter-agency cooperation relative to early education needs and responses.

Water Supply Protection and Development Team

The Council of Governments has maintained programs in water resources for years, especially in the preservation of water quality in the region's lakes and streams. This team has turned its attention to water supply. Focus groups are working on four key issues.

Water Supply Networking Focus Group: The B. Everett Jordan Reservoir in Chatham County has been approved by the State as a source of drinking water. However, none of the water has been allocated to the several units of government that have applied for it. In anticipation of the allocation process, this group is looking at alternative configurations of pipes and treatment plants to make the most efficient use of the Jordan Reservoir water supply. Several options have been developed, and are now being studied by the group.

Supplemental Water Quality Monitoring Focus Group: Although the water in the region is monitored by the State, this group believes the present monitoring program should be supplemented. The focus group is devising an additional monitoring program for water supplies serving more than 90 percent of the region's municipal consumers.

Upper Neuse Watershed Protection Focus Group: The Falls of the Neuse Reservoir is the principal water supply for Raleigh. By contract, Raleigh provides treated water to many of the smaller towns in Wake County. Thus, the Reservoir is the source of water for most of the population of the County, yet most of the watershed is in upstream jurisdictions. Because the activities in a watershed can affect the quality of downstream water, this focus group is examining the land use/water quality relationships as they pertain to the Falls of the Neuse Reservoir.

Financing Focus Group: As a means of financing the regional water supply programs, this group is considering a recommendation that a surcharge be applied to local water bills.

Solid Waste Management Team

The Triangle J region has its own "garbage barge"—the landfills operated by the cities and counties in the region, which are being loaded with money and poison. The money is in the form of recyclable materials. The poison is household hazardous waste. The solid waste management team (often referred to as "Partners in Trash") has set two long-term goals: (1) reducing the volume of solid waste going into landfills by 25 percent over the next ten years and (2) diverting all hazardous materials away from landfills through environmentally sound disposal

programs. To accomplish these goals, the team has decided to focus its attention on three issues.

Recycling and Recovery: The primary objective in the recycling and recovery area is to implement recycling programs for yard wastes, white goods, tires, cardboard, and government office paper. Final programs may include sharing a wood chipper or contracting with a tire-shredding firm. Also being considered is a requirement that a certain percentage of paper products purchased by governmental agencies be from recycled paper. Finally, environmentalists, recycling firms, elected officials and beverage industry representatives are working together on the issue of mandatory deposit legislation, often referred to as a "bottle bill."

Household Hazardous Waste: This team is initially concentrating on waste oil, automobile batteries, paints and pesticides. They plan to work with the State to expand the pesticide collection program, and with local paint stores to arrive at ways to collect the half-empty paint cans sitting in garages, waiting for spring cleaning.

Education: Public education will be emphasized by this group, in order to increase awareness of the solid waste problem. A school curriculum, a media campaign, and a directory to include recycling and recovery programs, and educational resources are being compiled.

Coming Up

From the above synopsis, it is apparent that the World Class Region Conference was only an intermediate step in a process that began with the January, 1987, appointment of the steering committee, and is continuing into the future. More than 1,000 people from across the region and across all levels of expertise, are working on one or more of the teams and focus groups. They include scientists from the universities, representatives of business and civic groups, technical experts from state and local governments, elected officials, environmentalists, neighborhood activists and others with an interest in preserving the region's quality of life.

Each of the teams is operating on its own schedule, designed to produce a plan of action in 1988. The conference leaders will soon decide whether to hold a World Class Region Conference II in 1989. At this second conference, reports would be heard from each team. Throughout 1988, however, team leaders will be appearing before governing bodies in the region to get their input and comments.

The World Class Region process has already had some positive effects. Its extensive press coverage, both before and after the Conference, has made many more people aware of the issues dealt with in the process. In addition, it has brought people together from throughout the region, and stimulated thoughts about regional approaches to problems which, in many cases, defy solution by a single unit of government. The cities in the region are constantly expanding their boundaries, and if past trends continue, they will someday merge into a single urban complex. If the region's citizens can find ways to address the issues discussed here, the regional community of the future will be more efficient, more attractive and will enjoy a higher level of services—both rural and urban—at minimum cost. In short, the quality of life will be preserved and enhanced. ☐

NOTES

1. The Triangle J Council of Governments is one of eighteen regional councils in North Carolina. It is a voluntary association of counties, cities and towns in the Triangle J Region. The Triangle J Region covers six counties and 36 cities and towns, and includes the State capital (Raleigh),the Research Triangle Park, three world class universities (Duke University in Durham, N.C. State University in Raleigh and UNC in Chapel Hill) and 800,000 residents.
2. Daily flights from the Raleigh-Durham Airport to Paris will begin in May, 1988, and to Germany in the Fall.

Ray Green is the Director of Planning for the Triangle J Council of Governments. Before joining the Council's staff, Mr. Green was a partner in an architectural, planning and engineering firm in Chapel Hill. He received his Master's Degree in City and Regional Planning from the University of North Carolina in 1961 and his Bachelor of Architecture degree from the University of Arkansas.

The Triangle Has Responsibilities as a World Class Region

Edward M. Bergman

What is one to make of recent news accounts that reveal major difficulties in the Triangle region? We have all seen articles lately that trouble many observers. Research Triangle Park growth has stalled, and senior officials are leaving their posts. The Research Triangle Foundation's directors are considering numerous options for the Park's future development.

Traffic congestion, worsening summer shortfalls in water supply, escalating threats to the natural environment and the many risks associated with a "microelectronics/Silicon Valley" scenario have arrived, although the scenario itself and Sematech have not. The growth of technologically based industries and advanced service businesses threaten to displace the region's traditional industrial base—and, with it, the loss of jobs held by many long-time residents.

Finally, while the region's economy appears to be restructuring on all fronts, its very strength now attracts both the able-bodied and most needy citizens from eastern North Carolina's nonmetropolitan counties. The Triangle may in fact be draining energy from its weaker hinterlands, while also inheriting many of its problems.

How significant are these facts and what sense, if any, can be made of them regarding a development outlook?

This economic restructuring is changing the very character of the region. Our region is not merely larger, it has become altered in fundamental ways. It is no longer merely the sum of three urban counties and cities; it has become a metropolitan region.

This metropolitan region continues to rely upon technological industries, but it relies less now on corporate centers in the Research Triangle Park as its driving force. Relying on new, advanced services to entrepeneurs, new firms are now spinning off in "business incubators" and industrial-office parks.

Similarly, new consumer goods and services demonstrate the existence of this new "metropolitan market."

This metropolitan quality now pushes our region closer to the economic environment of the California and Massachusetts Bay areas. The Research Triangle Park must acknowledge these fundamental alterations and "fine tune" its strategy accordingly.

The very pressures of traffic congestion, water shortages, and so forth have provoked novel regional approaches required of what is now called a "world class" metropolis. Completion of Interstate 40, expansion of Raleigh-Durham Airport, major university plans under way, and close competitions for national technology installations are responsible for support of a regionwide development strategy. As public and private investments accumulate, they provide the foundation of a world class region, but with this ambitious standing comes new responsibilities.

We should not overlook the opportunities to share these benefits with all the citizens in our region. Shortages of skilled labor present an excellent incentive to retrain local workers in our community colleges and university programs who can meet needs for new skills. But our responsibility need not end at the metropolitan borders. The very success of our most vital industries bids up land costs and wage rates, which then force out some traditional firms.

Rather than dismiss such displaced firms as inevitable market casualties, a more responsible regional policy would establish plans to relocate firms among the nonmetropolitan counties surrounding the Triangle. This approach complements development of Triangle East and Triangle South.

It is manifestly in our best interest to acknowledge the metropolitan region we have become. What otherwise appears as a series of independent problems can instead be seen as facets of a new development phase. It is well worth the effort to examine each development episode as it arises, but how each fits into the Triangle's new metropolitan mosaic also deserves our closest attention. ☐

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Edward M. Bergman is a professor in the Department of City and Regional Planning and Director of the Institute of Economic Development at the University of North Carolina at Chapel Hill.

The Future of Economic Development in the South: Addressing the Consequences of Our Past

Jesse L. White, Jr.

To understand where the South is going, we must understand where it has been. This article highlights past and current economic trends and state development policies. It concludes that the region must focus on its existing human and capital resources to ensure continued development. The following article is taken from White's February 5 keynote address to the 1988 Annual Alumni Conference of the Department of City and Regional Planning at the University of North Carolina at Chapel Hill.

We at the Southern Growth Policies Board are most often asked, "What is the future of economic development in the South?" After six years as Executive Director, I have concluded that the answer is simple in its statement and staggering in its implications: "The key to our future is dealing with the consequences of our past."

During its fifteen year history, the Board has been in the business of crafting a better future for the South out of its good and bad past: during the Board's first years by focusing on growth management in the boom years of the early seventies; in the late seventies by fighting battles for the South in the federal funding wars; in the early eighties by refocusing on state policy regarding human resource development. Now, during the middle and late eighties, we have been trying to integrate a wholistic approach to state development policies – in the words of our new motto, we are "creating strategies for economic development."

We create these strategies through our research, publications, and meetings. The Board has regular, serial publications dedicated to emerging economic issues, human resource development, international trade, growth and environmental management, intergovernmental relations, and technology. We also publish special studies and proceedings. The Board also creates development strategies by energizing networks throughout our twelve states and Puerto Rico. These networks take our products, and adapt them and use them as instruments of policy change at their respective state and local levels.

The Southern Growth Policies Board is funded and governed by the thirteen state and territorial governments, with the governor, a state senator and representative, and two citizen members serving on the Board from each member state. This combination of gubernatorial, legislative, and private sector membership gives us a unique strength, critical in today's economy. In addition, we have an Associate Membership program which includes over 250 corporations, universities, colleges, and nonprofit agencies.

Jesse White, Executive Director of the Southern Growth Policies Board.

Before getting into the principal thrust of my remarks about the future, let me say a word about our new motto, "Creating strategies for economic development." It is important, both because we chose it carefully and because it will give you an understanding of the lens through which we look at the future.

First of all, we chose the verb "creating" to imply that our work is cutting edge in nature (and, therefore, sometimes risky). We hope to shed new light on new and old problems, and to contribute to public policy an intermediate-to-long range look at the future. Second, the term "strategies" also implies a long-term and global perspective, as opposed to the often tactical, parochial, and brushfire work of our state and local political systems. And finally, the term "economic development" is critical, particularly as distinguished from "economic growth."

Let me say a word about the difference between "growth" and "development." Simply put, it is the difference between spurring economic activity, which is growth, and developing the *long term capacity* to generate self-sustaining economic activity, which is development. Examples might help clarify the distinction:

- Increasing per capita income is growth; increasing per capita wealth is development.
- Increasing the number of jobs is growth; improving the per capita education and skill levels of the work force is development.
- One or several local companies successfully entering export markets is growth; all students graduating with some meaningful exposure to foreign language, world history, and international economics is development.
- Landing a branch plant is growth; enhancing the environment for local business creation, success, and expansion is development.

In summary, economic growth measures increases in short-term indicators; economic development measures the creation of long-term capacity. And both are critical in the policy arena, because people need jobs in the short run while capacity is being built in the long run. But one measure cannot be ignored at the expense of the other; too often in the South, we have ignored the hard, long-term challenges of development and concentrated instead on simple job growth.

Our goal at the Board is to keep the eyes of our leaders focused, at least in part, on "creating strategies for economic development." And, of course, all of this deals with the future, which brings me back to my original theme. The more we think about the future, particularly in the South, the more we have to understand our past and its legacies, both good and bad, in the present. That is the way I would like to organize these brief comments: first, to delineate what I see as some major trends and issue clusters in our future; second, to see how well our past policies have prepared us to deal with that future; and third, how our current policies might be better crafted.

I will begin by delineating eight major trends which will affect the future of economic development in the South.

The first major trend is that the **Era of the Sunbelt** will soon be over; it *is*, in fact, already over in many parts of the region. By this, I mean the 1980s media image of our region as the land of milk and honey—an area to which people are moving and where jobs are being created. In the 1970s, this was an accurate image: Southern population grew 50 percent faster than the United States and job creation likewise outpaced the nation.

But just when this image had become implanted in the American mind, the reality had begun to change. Per capita income growth stayed flat in the last half of the decade, at about 86 percent of U.S. per capita income, and the differential in the rate of job creation between the South and non-South narrowed. While our Atlantic Seaboard states resumed their growth by the mid-eighties, most of the Deep South states had not. Some, like Louisiana, Oklahoma, Mississippi, and Alabama, had actually slipped in relative per capita income.

Our most recent report of the Committee on Southern Trends, cites projections which indicate general regional stagnation in per capita income by the year 2000, although some of our current "worst" states will advance while some of our current "best" states will decline slightly. Likewise, in about 1995, the job creation rates are likely to turn around, and the South will lag behind the nation in the creation of new jobs. The latest population projections indicate that even the most vaunted aspect of the Sunbelt boom—our growing population—will reverse by the year 2000, and that the nation's growth will exceed ours.

As our Committee on Southern Trends states: by the year 2000 "...southern states may not be able to rely, as some have in the past, on inmigration to provide either fresh recruits for the labor force or an expanded tax base...the future development of the region will be tied to its leaders' ability to make better use of the human, natural, and economic resources it now has."

The second major trend will be the nature of change itself. Change has always characterized economies in response to technological break-throughs and political decisions; however, what is different now is the pervasiveness and velocity of these changes. The Commission on the Future of the South proclaims, for example, that we are living in an era of technological renaissance. This means that innovations are ever more frequent and powerful—constantly altering products, the ways in which businesses are organized and financed, and how markets are defined and served.

At the bottom of the business spectrum, during the past six years, we have seen unprecedented levels of small business creation and failure—a boiling caldron of entrepreneurship. At the top end—in the Fortune 500—we see much of the energies of America's so-called 'great companies" being spent on mergers, acquisitions, hostile takeovers, restruc-

turing, and refinancing. This gargantuan and costly reshuffling of assets does not result in significant increases in either new jobs or productive capacity. Robert Reich, at Harvard University, refers to this as "paper entrepreneurship."

For the businessman and worker, all of this means increasing uncertainty in an ever-changing and churning economy. Recent estimates indicate that the average worker entering the labor force during the remainder of this century will change occupations at least three times and changes jobs seven times during his or her working life. The entrepreneurial churning at the bottom, the internationalization of markets, and the seemingly whimsical effects of corporate restructuring on thousands of executives and workers will probably continue until the year 2000.

A **third trend is the growing importance of the human resource base** in the future economy. Some economists argue that human capital has been the driving force in national economic growth for decades; this is certainly the case in the South today. An educated, skilled, flexible work force will be *the key* to a well-functioning economy in this volatile and uncertain environment. We already know the essential facts about the work force in the year 2000. About 75 percent of that workforce is already working and all have been born. Of our *current* labor force, 25 percent is classified as adult functional illiterates.

Regarding *new* entrants into the labor market, we all hope that the impact of current education reform will staunch the flow of illiterates into the work force. With the slowing of population growth, however, we will not have an abundant supply from which to choose, as immigration slows and high school graduation rates decline. Furthermore, according to a recent study by the Hudson Institute called *Workforce 2000*, the profile of new entrants into the labor force is very different from that of the past. Only 15 percent will be white men, traditionally perceived as the main component of the work force. Two-thirds will be women, and nearly 21 percent minority or immigrant women; and over 42 percent will be minority or immigrant.

These figures constitute the profile of our current and future labor force upon which our competitiveness will rest.

A **fourth trend is the continuing globalization of the economy.** This development has proceeded at exponential speed in the last twenty years and is almost certainly irreversible. For example, for forty years, from 1929 to 1969, America's dependence on international trade remained small and constant, at about 4 percent of GNP. Between 1969 and the present, however, it has soared to over 20 percent of GNP; today, about 70 percent of our goods compete here and abroad with foreign-made goods.

This nation's share of world production has slipped from 40 percent in 1950 to 22 percent in 1980, in part due to the happy recovery from World War II of the rest of the developed world and the emergence of Third World economies. But during the course of the past year, we saw the consequences of this increased world competition, to wit:

- Our 1986 trade deficit hit an all time high of $170 billion.
- For the first time since World War II, the U.S. lost (to Germany) its position as the world's number one exporter.
- For the first time in recent history, the U.S. had a negative trade balance for several months in agricultural commodities.
- In 1986, the United States became, in the words of economist Fred Bergsten, "the largest debtor nation ever known to mankind."
- October 29, 1987 and its aftermath illustrated starkly just how profoundly interrelated the world's currency markets are.

While the nation can and must take steps to increase our international competitiveness, these fundamental trends show no signs of abating. More and more Americans work for foreign-owned firms, as do nearly a million Southerners; more and more jobs depend on exports—over one and a quarter million jobs in the South alone. Firms continue to internationalize in terms of markets, ownership structure, and production. Barring a calamity, we will most certainly function in a profoundly globalized economy by the year 2000.

The **fifth trend** will be toward a **more sophisticated understanding** of what has been called the **post-industrial economy.** The percentage of the work force employed in manufacturing will continue its twenty-year decline, and most of the job creation will be in the broadly defined service sector. In the South, for example, the work force employed in manufacturing will decline from a 1985 level of 18 percent to 13 percent by the year 2000. Furthermore, probably 75 to 80 percent of the new jobs created will be in the service sector. Much of this relative decline in manufacturing employment will be due to automation, which, in turn, will be a response to international competition and technology.

This relative decline in manufacturing employment does not mean a decline in the importance of manufacturing itself. Agriculture is an appropriate historical analogy. The percentage of the American workforce employed in primary agriculture declined from almost the entire population at the time of the American Revolution to 2 percent today. Yet American agricultural output is better and greater than ever. The application of technology to agriculture increased productivity while reducing the labor required. The manu-

facturing sector is undergoing a similar transformation.

Manufacturing activity in the coming decades will not be in the mass employment arena, as it was prior to World War II. Instead, the work force will consist of highly-skilled workers in technology, developing and applying sophisticated, computer-driven, integrated, quality controlled, and flexible automated manufacturing systems. Again, according to the Hudson Institute, although today 40 percent of U.S. jobs fall into the "lowest skill" category, by 2000, that figure will fall to 27 percent. In contrast, during the same period, the number of "highest skill" jobs will increase from 24 percent to 41 percent.

Closely related to this trend is a **sixth one: information.** Financial capital, raw materials, and skilled labor will continue to be essential to this new economy; however, information is emerging as the new strategic input into the economy of tomorrow. The percentage of the American labor force employed in information-related occupations has grown from around 5 percent after the Civil War to over 50 percent today.

Access to information and the infrastructures to transmit it will be key determinants of a region's success. The development and availability of data bases and the telecommunications infrastructure to move them will be critical public policy issues for the next twenty years. Recent moves in Washington, for example, to privatize or charge fees for data heretofore collected by the federal government and made available in the public domain should be monitored carefully in the South.

"...two Souths are being created—one that is metropolitan, middle-class, and growing, and one rural, isolated, heavily minority, and declining."

Another aspect of this information age is the growing interconnection between education and economic development. David Birch of MIT says it all when he asserts that "we will have to live by our wits." This statement recalls the discussion of trend number three, in which we saw that the education, skills, and attitude of the labor force will be the single most important key to the future. This has profound implications for our education and training systems. Furthermore, it extends to our institutions of higher education, where the availability of brain power, particularly the access to technology, is an important factor in local growth and development. As our Research Director, Dr. Stuart Rosenfeld, says, "Access to information and knowledge has replaced access to markets and suppliers for many new companies. One effect has been to make colleges and universities key attractions in economic development."

A **seventh trend** is that, as is typical, **altered development patterns emerging out of a new business climate will have locational impact.** In the next twenty years, this spatial impact will likely be the continued metropolitanization of the Southern economy at the expense of many rural areas and small towns This trend most likely began a decade ago, but was documented by the Southern Growth Policies Board, followed by others, only recently. Until that point, the development pattern was one of dispersed industrialization powered by branch plant recruitment. This forty-year pattern began its relative decline sometime in the mid-seventies as globalization crashed over our traditional, labor-intensive industries like a tidal wave. As these industries began to "automate, emigrate, or evaporate," many of our smaller cities, which relied on these plants as their economic backbone, became distressed. Traditional manufacturing jobs were being lost in these areas, while the new information and service economy jobs were being created in the metropolitan areas. This phenomenon led to our current concern that two Souths are being created—one that is metropolitan, middle class, and growing, and one rural isolated, heavily minority, and declining.

Since most of the elements essential to this new business climate—major airports, universities, urban amenities, telecommunications, and good schools—are found in our larger cities, this pattern of metropolitanization will probably continue. It will also create a tricky policy equation at the state and regional level: managing the growth in our emerging metropolises on the one hand, while supporting economic development in our rural and small town areas on the other.

The **eighth** and final trend which I see as critical in the next twenty years is the **growing need to develop sophisticated, collaborative partnerships** between the public and private sectors. I again quote Robert Reich of Harvard, who characterizes the historic relationship between government and business in America as one of either "confrontation or collusion," but rarely true collaboration. Our major industrial competitors have been perfecting collaborative models for a long time. The Japanese experience is well known, but the Germans have also developed a similar model. The April 1986 issue of MIT's *Technology Review* outlines some successful collaborations in Germany, Denmark, Sweden, France, and Italy. The key, as the article points out, is for the state to encourage "industries to reorganize in a manner that encourages innovative specialization."

We at the Board have long cited the Cotton Incorporated model as an innovative partnership between the federal government and the cotton producers. This partnership turned around a potentially disastrous slide in the market share for natural fibers. We feel that more barriers will have to fall between the public and private sectors to

enhance America's and the South's competitive position in world markets.

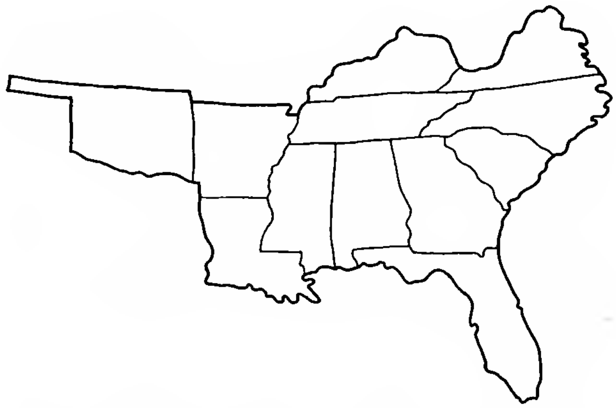
How well positioned is the South to deal with this future? I return to my opening question, how well has our past prepared us for the future? In some ways, very well. In other ways, very poorly. We have come a long way in closing the per capita income gap from its 1930 level of 50 percent of the U.S. average to a figure that is now approaching 90 percent; we have diversified the economy until our employment structure closely resembles that of the nation; and we have made vast strides in education. But, as the report of the Commission on the Future of the South says, we are still only *halfway home and a long way to go.*

One fundamental economic policy was, initially, very successful. In the 1930s, the South had a widely depressed economy, with many workers displaced from the agricultural sector and under-educated. Mississippi pioneered the model of recruiting branch plants of low-skill manufacturing firms based outside the South to come into the region to provide badly needed jobs. We lured these plants with the promise of abundant, unorganized, and cheap labor, low taxes, public subsidies in the form of Industrial Development Bonds and tax holidays, and abundant natural resources. This policy spread throughout the South until it became the industrial policy of the region. It was phenomenally successful. It did, in fact, industrialize the rural and small town South.

There was, however, an awesome, long-term price to pay. The South, in essence, sold the region's low-skill, low-wage, unorganized work force. Only the fact that the work force was not unionized could be considered an advantage today. Its low wages produced only poverty; 25 percent of the labor force produced by its low skills and education is functionally illiterate—hardly the skilled, flexible human resource base I discussed above. And the low taxes denied the public funds for badly needed investments in education and infrastructure.

The industrial policy of branch plant recruitment also obviated the need for venture capital, industrial outreach, technology transfer, or the teaching of entrepreneurial skills—key ingredients of indigenous business creation and success. None of these were considered essential, since the goal had been merely to import jobs rather than create them. The only good innovation was the development of an excellent two-year college system to train workers for the new manufacturing jobs. We at the Board are looking at ways of transforming those fine institutions into a system which will address the future economy rather than the past one.

Other policies of our state governments were also both good and bad. They were generally friendly to business after the Populist era and still are, which is a plus. They were also fiscally sound and stable, which business always likes.



Southern Growth Policy Board members include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, and Virginia.

However, the flip side contained some disastrous policies. The financial responsibility of state governments was a reflection of their extreme conservatism. They tended to be suspicious of mass public education and grossly underinvested in education, economic, and social programs. Even though these statistics have improved in the last ten years, the South still spends only about 78 percent of what the rest of the nation spends on elementary and secondary education. It is not surprising, then, that the return on investment has been correspondingly low, as the South has lower performance on all education indicators and a higher percentage of dropouts.

On the other hand, these neo-Bourbon regimes in the South wanted to ensure a good college and university education for their sons and daughters, so they historically did a much better job of investing in higher education. When related to personal income, the South still spends at a much higher rate relative to the nation in higher education than on elementary and secondary education. As a result, the South does have a well-dispersed number of post-secondary schools and a few excellent ones. However, in trying to make too many of these institutions research universities, states have often spread the resources too thin and levelled the playing field too much. As a result, because we have developed too few world-class centers of excellence, the South is disadvantaged in the global race to generate and capture the benefits of technology and innovation.

The other great legacy of our past is, of course, the racial caste system which had practically no positive consequences. By undereducating black Southerners and excluding them from vast sectors of the economy, we now have 20 percent of our work force trying to overcome a century of exclusion from education, training, entrepre-

neurial know-how, and leadership development.

The Bible says that you sow the wind and reap the whirlwind. Almost 40 percent of the adult black population in the South is functionally illiterate; 35 percent live in poverty; their unemployment rate is 2.5 times greater than for whites; and in the increasing number of single-parent, female-headed black families, almost 80 percent of the children under six live in poverty. Remember these figures as you recall that between now and 1995, 28 percent of our new entrants into the labor force will be minorities. Unless this cycle of poverty and lost potential can be broken, it will be a major barrier in our efforts to develop a world-class economy.

Another consequence of our history deserves mention. Prior to the Civil War, the South had one of America's more internationalized economies. Cotton was traded globally, and we had some of America's oldest and greatest ports, such as Charleston, Wilmington, Savannah, and New Orleans. However, since that tragic conflict, we have lost that orientation which could have been a leg up in this globalized economy, had we maintained the momentum. Now, we share with most other Americans an alarmingly provincial view of the economy and an appalling ignorance of other cultures, languages, and economies. The question is, can the South recapture its leadership in the international marketplace?

A final historical note: because of our definition of economic development and the structure of our industrial economy, the nature of leadership was hierarchical. A planter-manufacturer-banker-lawyer elite at the top, with a vast labor pool at the bottom, meant that the requirements of leadership were narrow. Due to the increased focus on interdependence and the necessity that community revitalization be broad-based, many of the small towns and rural communities suffer from leadership vacuums. It is becoming increasingly clear that in the churning economy of the twenty-first century, creative leadership will be the key ingredient to making everything else happen in states and localities.

"...the South is disadvantaged in the global race to generate and capture the benefits of technology and innovation."

We at the Southern Growth Policies Board have been addressing many of these issues for the past six years through our publications, conferences, and networks. All of this work came together in a new, integrated, and exciting way in the 1986 Commission on the Future of the South. We labored for over a year with a twenty-person, blue ribbon commission appointed by our chairman, Governor Bill Clinton of Arkansas, to produce the final report and nine support documents, called by Governor Clinton "an unprecedented treasure trove of information on the South and Southerners." Chaired by former Governor William Winter of Mississippi, the Commission's final report, *Halfway Home and a Long Way to Go*, has been acclaimed one of the most compelling and moving public policy documents in Southern history.

Halfway Home lists ten regional objectives for the South to work on for the next five years. These objectives provide us with a roadmap for addressing that future I have described and the problems we face. It posits nothing less than a *new model of economic development for the South.* It is a model of internal development, rather than external, and one that calls for a new set of strategies aimed at education and training, capacity building, indigeneous business creation, and a far more sophisticated role for government.

It is here, I would argue, that we find the good news from our region in our capacity to come together as Southerners, to care about each other, and to work on our problems collectively. This is a great regional strength that is found nowhere else in America. People in one Southern state *really do care* about their fellow Southerners in other states. This sense of regional identity is a tremendous asset if we harness it positively and with vision. And creating a regional agenda for action to address the problems and opportunities we share is what the Commission on the Future of the South is all about.

In the following ten regional objectives, you will see an action agenda which addresses that future I described above:

1. Provide a nationally competitive education for all Southern children.
2. Mobilize resources to eliminate adult functional illiteracy.
3. Prepare a flexible, globally competitive work force.
4. Strengthen society as a whole by strengthening at-risk families.
5. Increase the economic development role of higher education.
6. Increase the South's capacity to generate and use technology.
7. Implement new economic development strategies aimed at home-grown industry.
8. Enhance the South's natural and cultural resources.
9. Develop pragmatic leaders with a global vision.
10. Improve the structure and performance of state and local government.

I will not discuss these objectives in detail, but I urge each of you to read the report. It is available free of charge from the Board; it is only 23 pages long, and can be read in less than an hour. In addition, the Board published nine documents to support the final report, produced by the

Commission's Committees on Human Resource Development, Technology and Innovation, and Government Structure. Five cross-cutting issue reports were also published entitled: *Equity, Internationalization, Urban-rural, Public Finance,* and *Quality of Life.* In addition, a data book of statistics on all Southern states deals with these issues.

Another unique feature of this Commission report is the historic commitment of the Board to put the recommendations into effect. Governor Martha Layne Collins, the chairman after Governor Clinton, actually devoted her term to follow-up and implementation activities. Our current chairman, Governor Baliles of Virginia, is similarly committed. In fact, all of the work of the Board in some way arises from and advances the ten regional objectives.

"To honor the past is one thing. To prefer it will cost us the future."

In this report and in the work of the Southern Growth Policies Board I see great hope for our region to be globally competitive. But it will not be easy, and it will not be cheap. The report asks, "Can we afford to make high-priced changes when budgets are tight? Can we afford not to?" A more difficult cost may have nothing to do with money, but with our historical reluctance as Southerners to change the way we do things. I would like to close with some selected quotes from *Halfway Home and a Long Way to Go* written by Doris Betts:

The familiar song says that old times in Dixie are "not forgotten." William Faulkner adds that in the South the past is not only forgotten—it's not even past! History is to a people what memory is to an individual, and too often the old South preferred the past, resting by the roadside swapping tales of yesterday, postponing changes until the weather cooled, the crops were in, or the moon was in the right phase.

We dare not retrace that long, weary road. To honor the past is one thing. To prefer it will cost us the future.

We are already carrying into that future as heavy a load of past mistakes as past glory. If part of the burden of history is a poor underclass now threatening to become permanently mired in poverty—one of the South's surprises is how a wall of isolation, like Jericho's, has tumbled almost overnight—we must now decide which parts of our past need preserving and which need to be discarded.

The Commission praises, for example, the restoration of historic buildings and main streets; it applauds efforts to keep the South green and natural. It finds that our reverence for strong personal relationships and family values are an enduring strength. We must save the best of what we inherited and bequeath it to the next generation.

But there are old mistakes and problems we need not pass along. Other self-proclaimed "New Souths" have dragged behind them like long, old chains the inevitable outcomes of the plantation system, secession and reconstruction, sharecropping, low-wage factories, and segregation. Decades after old economic systems have vanished, their high human costs remain.

As Robert Penn Warren has said, examination of the past should be done in order "to find what is valuable to us, the line of continuity to us and through us." Whatever the South failed at yesterday can be turned to success tomorrow; what it lost can be restored; what it dreamed can be made real. . .but change will prove tough and expensive.

Two centuries ago, when Benjamin Franklin looked up from signing the Declaration of Independence which was to transform a colony into a nation, he remarked, "We must all hang together, else we shall all hang separately."

As the Commission listened to concerned Southerners from every state, it became clear that the 1776 spirit of independence is still alive and well in our rugged individualism. But, something else has become clear: a sense of *interdependence,* growing awareness that in today's world the good life of one individual is inextricably linked to the good life of the next. The South is part of a complex independent nation and a shrinking world.

The choice is one of action or inaction, of moving forward from this crossroads on our continuing journey home or of freezing in our tracks with little prospect of completing the journey.

If we fail to address the ten objectives in this report, unlike the signers of that original Declaration, we will not literally "hang." We will, instead, simply stand still while a bustling world economy moves into the next century and leaves us behind.

By forging this new Declaration of Interdependence [among all people of the South and us with the world] we can renew our journey home. By taking action on these regional objectives, we can honor the past while moving into the future and building for ourselves and our children a resilient, competitive, and humane society which will, by 1992, bring us a lot closer to home. □

Jesse R. White, Jr. is the Executive Director of the Southern Growth Policies Board.

The Myth of Balanced Growth: Redistributing North Carolina's Infrastructure Dollars

Representative Josephus Mavretic

According to Josephus Mavretic, Representative of the Eighth District in the North Carolina General Assembly, the public revenue structure must be changed. Current tax policies ensure that those rural counties most in need of infrastructure will be least able to afford it. In 1989, the General Assembly will have the opportunity to restructure the system of taxation. In this piece, Mavretic outlines the state's alternatives in providing for the equitable distribution of financial resources for infrastructure.

As a representative of most of Edgecombe County and a portion of Nash County in the General Assembly, I have served as the Vice Chairman of the House Finance Committee for three terms; this committee is where public revenue originates. Money is the glue of government, and you can never assume away "where the bucks are going to come from."

When you hear buzzwords like "partnership," you must not overlook the fact that words and labels are critical, particularly within the political process. "Partnership" is not an appropriate word to describe the relationship between state and local governments in North Carolina. Cities and counties, are, according to the state constitution, "creatures of the state." Local governments are created for several reasons, one of which is to execute policies set by State Representatives through the General Assembly. From a fiscal point of view, implicit in the word partnership is this proposition: unilateral independent tax authority from the governmental entity.

"There is no balanced growth in North Carolina; what we have are a few islands of prosperity in a sea of decline."

Citizens of North Carolina can have their money taxed away by only the Congress or the General Assembly, and by no other entity without the approval of these two governmental bodies. Consider how your wallet would fare if independent unilateral taxing authority existed at the Congressional, State, County, City, school board, water and sewer, fire, and hospital levels.

One of the reasons that the state adopted a very "centralistic" perspective and organizational structure for taxation in the 1930s, is because we are big and we are poor. Although North Carolina has the tenth largest population in the nation, we rank 37th from the top in per capita disposable income.

Balanced growth is a political buzzword of long standing in North Carolina. It is also a myth. There is no balanced growth in North Carolina; what we have are a few islands of prosperity in a sea of decline.

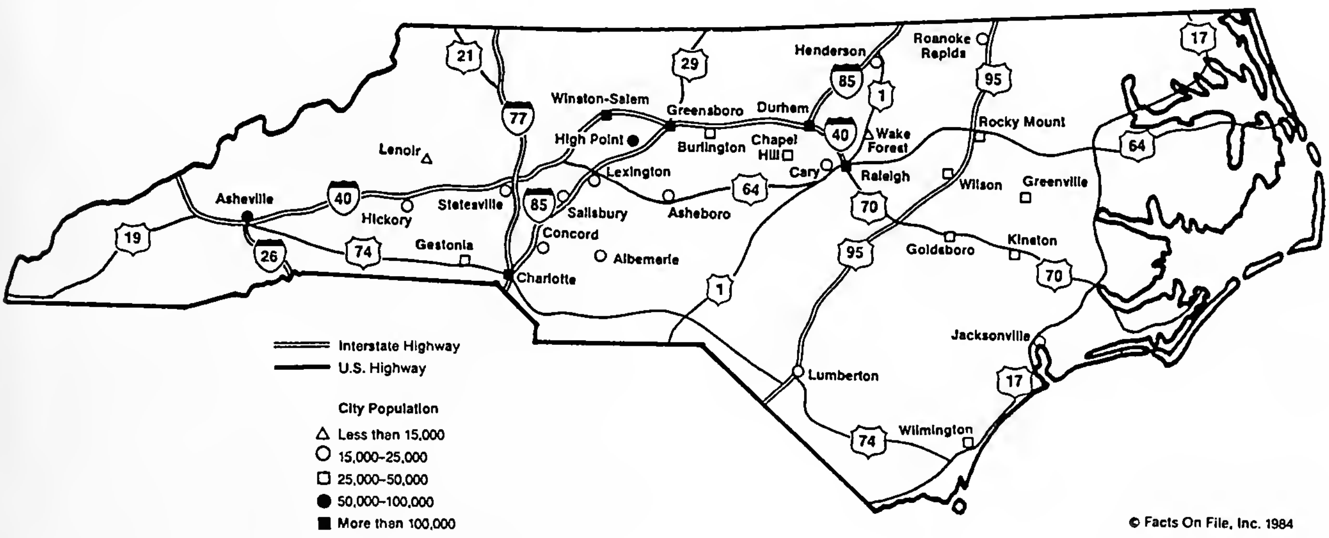
Public Services and Infrastructure

The following examples will help to illustrate how the discrepancies between urban and rural areas necessitate the examination and redefinition of the concept of "balanced growth."

Highways

Our state does not have an adequate highway revenue structure to support its ever-expanding transportation system. In fact, North Carolina politics have dictated a revenue structure that essentially *guarantees* that there will not be sufficient funds for the construction and maintenance of state highways.

There are 15 counties in northeastern North Carolina, where I come from, that do not have one inch of interstate-quality road. Since all citizens should be able to enjoy the same benefits from the expenditure of public revenue, the state needs to ensure equal access to highways. The transportation policy of the state should be to guarantee that there will be an interstate-quality road within 30 miles or 30 minutes of every citizen and industry in North Carolina. I estimate that forty percent of the traffic problems in most major urban areas within the state can be reduced by driving two to a car. Those of us who live in the rural areas feel that if urban residents do not want to ride two to a car, they should not be so strident about



Interstate and U.S. Highway distribution in North Carolina.

the government spending money to provide highways for rural counties.

Solid Waste

Thirty-five out of 119 landfills in the state are within five years of reaching their maximum capacity. Though most policy-makers have focused their attention on innovative techniques for financing *new* solid waste facilities, such as revolving funds, this approach, in fact, encourages the very problem we need to eliminate.

First of all, the only materials that should go into municipal landfills are those that cannot be sorted and recycled, composted, or combusted. Second, rather then using money to create new landfills, why not use these funds to install an off-the-shelf, state-of-the-art solid waste management system. If it is necessary to cross political boundaries to create regions for solid waste management, the General Assembly should have the courage to do so. Adhering to county and municipal lines in this case may not be in the public's best interest.

Natural Gas

In North Carolina, it is almost unheard of for a home or industry that wants electricity to be unable to get it. As with electricity, no matter where you live in the state, telecommunication services are available. Natural gas, however, is another matter entirely. Since it is the preferred source of energy for many industries, the extremely uneven distribution of natural gas among North Carolina's 100 counties is emerging as an important political issue.

Counties without natural gas are less competitive in the recruitment of new industry. The state must require natural gas franchises to make their product as available throughout their territory as are electricity and telecommunications. The alternative to a government subsidy to a lazy utility is the elimination of reseller monopoly territory through increased pipeline and reseller competition. Such regulation would eliminate the tremendous profits gained by gas companies from the state's high-density areas at the expense of the rural counties.

Duplin County is one of the major poultry producing counties in the country, where literally millions of birds are processed a year. Yet there is not one inch of natural gas pipeline in the entire county, even though it is the preferred energy source for poultry processing. McDowell County has a pipeline running right by it, but the reseller claims that it is not economically feasible to run a spur into the county. McDowell County has recently lost two industries due to its lack of access to natural gas.

Schools

There are approximately 100 county and 40 city school systems in North Carolina. Nearly 40 percent of the state's adults are illiterate, primarily due to a 30 percent dropout rate; yet, about 70 percent of the total general fund is spent for education, and about 40 percent of the general fund is spent for grades K-12. We have reason to ask whether we are getting our money's worth. The current thinking is to improve the school buildings with state mandated dollars and hope that the quality of student performance will thereby improve. Primary importance is typically given to the bricks and mortar issues, yet the product of the K-12 system in this state is guaranteed to keep us ranked 37th in the nation in per capita income.

"As long as 40 percent of the state's adult workforce remains illiterate, we will continue to attract industries that pay low wages."

There are 16 campuses in the state university system, and 38 within the private university system; do we need 54 college campuses in the state? Of the 38 private universities and colleges in North Carolina, there are 20 that are in Carnegie college level II for arts and sciences, such as Lenoir Rhyne and Atlantic Christian. Thirteen of these institutions have a total enrollment under 1000, and three have less than 400. Whether we can continue to apply

significant state resources to in-state students within these private schools is a serious policy question.

Affordable Housing

As long as 40 percent of the state's adult workforce remains illiterate, we will continue to attract industries that pay low wages. Industries will not pay high wages for illiterate employees. This suggests that a considerable portion of the workforce may receive minimum wage or only slightly above minimum wage salaries, rendering them incapable of affording a home in the private housing market. Therefore, the creation of affordable housing will be an increasingly important issue in the near future.

Alternative Taxing Mechanisms

Public policy must concern itself with the extremes: the 10 percent of the state's counties that are doing very well and the 10 percent that are doing poorly. The middle will continue to muddle along. We must ask how effective statewide local option taxes would be in raising revenue for providing new infrastructure for this critical 20 percent.

Local Option Income Tax

The average per capita income in North Carolina's ten richest counties is approximately $12,800, while this figure falls 40 percent, to $7,200, for the ten poorest counties. In a state that already ranks 37th in per capita income, which counties do you really believe would benefit most from a local option per capita income surtax? Which counties would have the guts to even think about it?

Land Transfer Taxes

An excise tax on the transfer of property is often touted as a viable means of financing infrastructure. However, a land transfer tax only produces significant revenue in locations where at least one of two conditions exist: intensive development or population growth.

"If we want to give local option taxes to municipalities and counties, then we ought to give them local options which will work."

A case in point is the outcome of the one percent land transfer tax, authorized by the 1985 General Assembly, which clearly shows that this type of tax only works in resort communities or major urban areas. In fiscal year 1986-87, Dare County, with a population of 17,250, raised $2.8 million dollars from this local option one percent transfer tax. That's $162.31 per person. Not a bad deal for this resort county. Next door in Currituck County, population 12,900, they raised $650,000, or $50.38 per person. Moving inland just a little and out of the resort area, Camden County, with a population of 5,800, collected only $49,000, or $8.44 per person.

These differences demonstrate that this tax only works

"...the only materials that should go into municipal landfills are those that cannot be sorted and recycled, composted, or combusted."

within a very narrow set of parameters. If we want to give local option taxes to municipalities and counties, then we ought to give them local options which will work.

Will the local option tax work in a major metropolitan area? You bet your boots. In fiscal year, 1986-87, Mecklenberg County's transfer tax generated $1.7 million. The right taxes applied in the right places can guarantee a great deal of money, but we must be selective about it. We should not go statewide with this real estate transfer tax, because it simply will not produce the revenue in at least 90 percent of the counties and municipalities.

Real Property Taxes

An ad valorem tax has the same kind of Achilles heel. First of all, although state law authorizes a local tax levy of $1.50 per hundred, the average statewide levy is only 61 cents per hundred dollars of assessed real estate value. Even Northampton County, with the highest tax levy in the state of just over a dollar per hundred, is only utilizing two-thirds of its potential ad valorem taxing power.

The second problem with the ad valorem tax in North Carolina is the fact that, unlike the income tax and the sales tax, the ad valorem tax is not based upon the ability to pay. It is based upon a fixed rate times an assessed value, and, in the case of most rural counties, a dollar and a half times nothing is nothing.

". . . increases in user fees are appropriate because they ensure that those people who create individualized demands pay in an individualized way."

When considering the real property tax, we should keep in mind the importance of evaluating pubic policy in terms of its effects on the extremes. In the county of Mecklenberg, which has the best ad valorem base in the state, an additional one cent brings $2,700,000. A one cent increase brings $390,000 to Gaston County, which has the tenth best base in the state. With the very lowest base in the state, Camden County would only raise $13,000 with a penny increase. Suppose as a planner in Camden County, your commissioners want to recruit industry, and the first thing needed is a county-wide water system. If Camden used its entire available levy, it could bring in $923,000. How will that help you in providing county-wide water? Besides getting the commissioners thrown out of office in the next election, it will do very little.

If Perquimans County, ranked 91st in the state, increased its levy from its present level of 68 cents to the maximum amount allowed, they would raise $1.7 million. However, how many politicians do you think would last if they increased the real estate tax rate from 68 cents to $1.50? Statistics from the Association of County Commissioners show that in the election immediately following a reevaluation, incumbent county commissioners are defeated at the rate of 40 percent.

User Fees

Although relying upon user fees to finance the administration and maintenance of public services may be politically unpopular, increases in user fees are appropriate because they ensure that those people who create individualized demands pay in an individualized way. Water, for example, is the most underpriced commodity in the public sector. The current pricing mechanism has not only conditioned the general public to waste this precious commodity at an alarming rate, but has created an elasticity that is a major obstruction to price reform.

How many people brush their teeth with the water running? How many turn the shower off when they soap? Imagine how much more efficiently people would behave if the price of water started to go up. It is also curious to me that we think we need the same quality of water to flush the commode as we do to drink. In a great portion of this world, most people get drinking water from one source and non-potable water from another source. I have always wondered why the architect of my house did not design it so that I could flush the toilet with the water in which I showered yesterday. The imposition of user fees should force us to change our view of liquid waste and make us consider some waste water as an undeveloped raw material.

Conclusion

In 1989, the North Carolina General Assembly will begin the process of restructuring the system of taxation. The state must get involved in the redistribution of financial resources, because those counties that have the greatest need for infrastructure will simply never be able to pay for it. In some areas, local option taxes may be appropriate sources for raising additional revenue. We must, however, get rid of the ad valorem property tax, because it is a millstone around the necks of the majority of the counties of this state. The only way that North Carolina is going to have enough money to even begin to move toward balanced growth is through a combination of user fees and state sales and income taxes, equitably distributed to counties and municipalities on a per capita basis.

North Carolina has become known as a national leader in its response to crises. In the 1930s, our General Assembly reacted to the Depression by restructuring the fiscal system to one that kept the state going through the most dynamic period in its history, and which continues to form the basis of our public revenue structure today. Typically, the way we have accomplished change is by nibbling at the edges of issues in bits and pieces, until a crisis finally occurs. North Carolina must become a national model in preventing crises instead of in devising prescriptions for crises. In 1989, we must move forward by enacting comprehensive measures to ensure the equitable distribution of infrastructure financing. □

Josephus Mavretic has represented North Carolina's Eighth District in the State General Assembly since 1980. He has been Vice-Chairman of the House Finance Committee since 1983. Mavretic serves on the Utility Review Committee and is a member of the House Committees on Transportation, Utilities, and Education.

Forum

Encouraging Business Start-ups in North Carolina
An Interview with Professor Dick Levin

Heidi Walter Powell

Dick Levin is the Phillip Hettleman Professor and former Associate Dean for Management Programs in the Graduate School of Business Administration, the University of North Carolina at Chapel Hill. He specializes in strategic planning, new ventures, and financial management in private companies. A small businessman himself, he has written several popular books on finance and management which serve as practical guides to new and small businesses.

CP: What are some of the characteristics of enterprise development in North Carolina?

LEVIN: The period is just about over for recruiting large out-of-state companies to open up in North Carolina. Though there are still announcements of openings, the big numbers are behind us, not in the future. On the other hand, small businesses create about 80 percent of new jobs. Here in North Carolina, between 1979 and 1987, 37 percent of new jobs were created by firms employing fewer than 20 people. If we want continued prosperity and growth, we need new enterprises. We are behind in encouraging the formation of new businesses—we are making a run at it to be sure, but we started late compared to other states.

CP: Since the time for recruiting large companies is almost over, has the state redirected its money and resources accordingly, or does it continue to concentrate its efforts on industrial recruitment?

LEVIN: There are a number of people in state government who do not believe that the great elephant migration is over. They are wrong. There are also a number of influential people in this state who recognize that it is over. In my judgment, the state has been too slow to react to the evidence; it is chasing the wrong prize.

CP: You indicated that the state should be encouraging new and small business start-ups. What are the barriers to developing such enterprises?

LEVIN: Creating a new small business is completely different from increasing the size of a large business or attracting one to our state. First, start-up capital (or seed money) is hard to come by. You generally beg and borrow this from friends and relatives, or mortgage everything you own. Second, there is no organized capital market for new ventures as there is for existing firms—you are not able to issue bonds to finance your idea. Third, banks lend on assets and collateral; if you are poor with a great idea, banks cannot help you much at all. That is simply not their business. Fourth, until recently in North Carolina, there has been a limited source of management assistance for starting a new business. About 80 percent of new businesses fail within five years, due to a lack of management know-how. Some changes are underway, but it will take a lot more time to provide the assistance that start-ups need. Fifth, when you start a business yourself, there is no staff to fall back on, no corporate research department to analyze markets, and no one but yourself to depend on; that is entirely different from working for a larger corporation. The venture founder has to be all things, perform all functions, deal with all of the customers, capital providers, employees, and regulatory institutions; that is difficult when you do not know much about business to begin with. And yet, in spite of this difficulty, we have thousands of eager North Carolinians who start their own business every year.

CP: Could you clarify the distinction between "new" and "small" businesses?

LEVIN: "New" to me means "start-ups." I tend to use "small business" as a term meaning an existing business. I'm not so sure that the distinction between them is clear.

CP: Could you comment on the common assertion that many small service businesses create numerous low-paying jobs while contributing little to the generation of real wealth, and that innovation—which often happens in young, growing firms—is the key to economic growth.

LEVIN: The effect of small businesses depends on the economic conditions in the particular locality. If the locality is essentially agricultural and there is exceedingly low per family income, then opening up 100 McDonald's is a grand idea because you employ 900 people who were previously unemployed, all making about $4.00 an hour. It is true that *ceteris paribus* it would be better to have higher income jobs, but putting people to work at some reasonable pay is the first objective in an area that suffers from low per family income. Wages in most of these areas do not jump from unemployment to $12.62 an hour. That is not the way it works—it is a step-up function. It is not just the wage people get, it is the profit. If the company makes a profit and stays in the county and the city, and all the purchases tend to be local or regional, you produce a multiplicative effect of jobs. I am not dismayed at creating new low-paying jobs if the precursor were no jobs. But I am unalterably opposed to averaging down the wage rate.

CP: What effect, if any, has the Community Reinvestment Act had on small and new business start-ups? (The CRA requires that a certain percent of a bank's investments must be made locally, *ed.*)

LEVIN: Though it is bound to have helped, I do not know if you can measure it. The bank still is not going to invest in a low-tech business that has no collateral. It will make home loans, but it is not going to put up money for a new business. I think they can meet CRA requirements by making secured loans. What we need for low-tech is hardly secured loans; we need risky low-tech venture capital loans, which bankers are not used to making. A banker is dismayed at the thought that maybe two-thirds or more of what she lends will not be repaid. Most banks write off less than one percent of loans; some banks are down under half a percent. Compare that to new start-ups and low-tech businesses—more than three-quarters of them are going to fail.

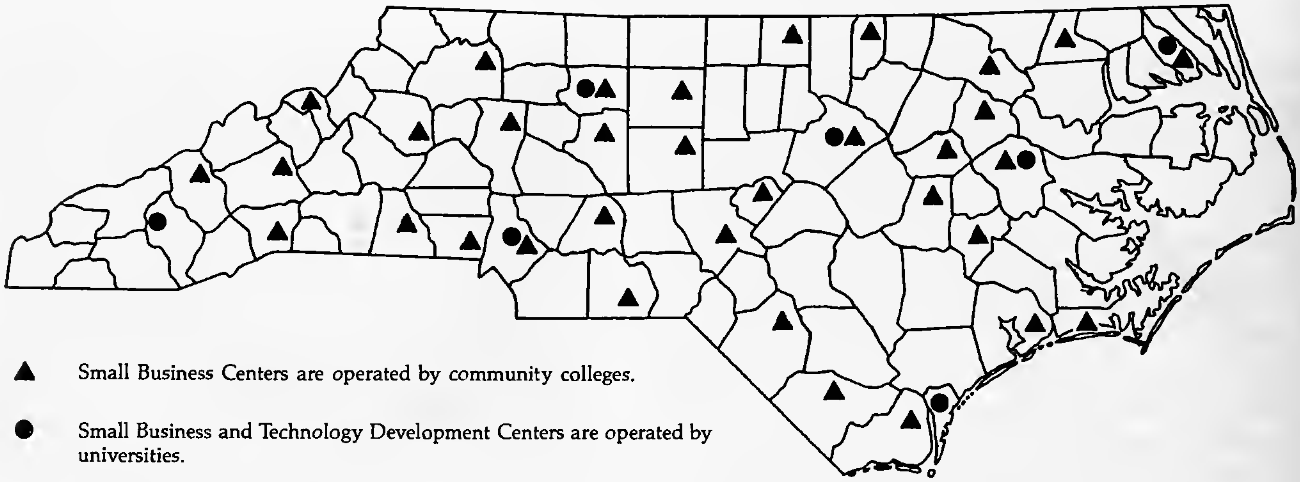
CP: What existing state programs assist new and small business people?

LEVIN: Chambers of Commerce around the state sponsor small business and new business programs. The Small Business and Technology Development Center devotes its energy to helping new businesses in seven locations across the state. It provides research, management and technical assistance to entrepreneurs and businesspeople and it conducts research and assists in the delivery of a specialized training program. The community college system has small business centers operating in most of its locations. The North Carolina Department of Commerce works at helping folks who want to travel this route, with some special attention to minority small businesses. The Small Business Administration offices in North Carolina work hard to help those who want to start a business, too; the Institute for Private Enterprise in Chapel Hill also focuses on new businesses; and at least seven of our universities offer some kind of course in new venture development. Yet, with all of this talent, activity, effort and money, two facts still nag us: the rate of new business creation in North Carolina is far too low, and the rate of failure of those new businesses that do get started in North Carolina is too high. Those are value judgements that I have made after looking at the situation for a long time. The failure rate among low-tech businesses is certainly too high.


Professor Dick Levin

CP: Why is the start-up rate low and the failure rate high for new businesses?

LEVIN: The start-up rate is too low because of insuffcent attention to and support of start-ups as a state strategy. There is a lack of seed-financing (capital available), an absence of a supportive infrastructure, a lack of encour-



Small Business Centers and Small Business and Technology Development Centers provide research, management, training and technical assistance to entrepreneurs in locations throughout North Carolina.

agement of willing entrepreneurs by the community, and a lack of identification and nurturing of entrepreneurs at a sufficiently early age. It is difficult in Conetoe to get someone to help you write a business plan. It is even more difficult in Enfield to meet a venture capitalist, or learn what seed capital providers look for in a new venture idea.

The failure rate is too high because of insufficiently thought-out ideas, a lack of financing, a lack of management know-how, insufficient professional help (including accounting, legal, tax, and marketing), and the absence of any real plan on which to base action. New companies fail because the entrepreneur has enthusiasm but cannot figure a break-even point; because she works 90 hours a week but does not know how to raise money and deal with a bank; because he has a wonderful idea but cannot figure out where the market is; and because he is willing to kill himself working but cannot write or follow a good business plan.

CP: What can state government do to encourage new and small business formation and reduce the rate of failure?

LEVIN: It is possible to increase the rate of new small business formation and to reduce the failure rate in North Carolina, but not without a lot of work, some changes in attitudes, a recognition that it is these new businesses that portend our economic future, and, of course, a fair bit of money.

There are several actions that I believe we must take in North Carolina if we are truly serious about new job creation through new enterprise start-ups. We ought to start earlier. We created several generations of farmers with Future Farmers of America clubs, and 4-H clubs in school. It is time to be serious about recognizing, nurturing, supporting and finding mentors for the young men and women who have the spark to start a business but who need the encouragement and support in a formal structure. This process should start in high school and continue through the university level. We need a much more direct local community involvement in small business start-ups. This should include mentoring, capital pool information, management assistance, site selection assistance, professional help—whatever it takes. After all, it is the community that benefits from new job creation first and most directly.

We need much more attention—from state government and the General Assembly—paid to the process by which new small businesses are formed and grown. The General Assembly should look closely at eight initiatives:

1. State government encouragement of the formation of capital pools to finance new start-up ventures—without capital, nothing happens.
2. Tax incentives to make it profitable to create capital for this purpose: both seed capital for start-ups and first stage capital money to help the business once it gets going but before it qualifies for bank help.
3. Incentives for North Carolina banks to participate more in the start-up venture capital business. These can be tax incentives, loan guarantees, or interest subsidies, but without them, the banks will probably not play the role we need them to play. We do have one North Carolina bank with a venture capital operation and another starting up next month.
4. Creation of incentives for, and support of state Small Business Investment Corporations which, by mandate, must invest in start-ups only in North Carolina. There is a lot of opportunity here; we need to finance them better.
5. A much broader availability of courses, management assistance, and support for the entrepreneur at all colleges and universities in North Carolina.
6. Some tax incentives for start-up businesses to give them some relief from early cash flow problems. I was glad to see this idea endorsed by the current Commission on Jobs and Economic Growth.

7. Expansion of a more rigorous new venture creation education into the curriculum of high schools and colleges in North Carolina.
8. The provision of direct seed capital funding made available to the entrepreneur who has market-sound ideas; has received the requisite new venture management education and is certified as qualified; has comprehensive business plans for the proposed venture; has a financial feasibility analysis which suggests that the idea has a reasonable chance to work; has sufficient monitoring and infrastructure in place to help the venture succeed; and has the potential to create at least ten new jobs in three years.

In essence, these eight initiatives would say to the entrepreneur: come up with a good idea that professionals think will work; show us you have been educated in new ventures to the point that you can understand and run the business yourself; show us a sound business plan with financial forecasts; and then show us that you are going to put your heart, soul, and every last dollar you have on earth into this deal and we will come up with enough money to get you started.

CP: Could you elaborate on your proposal to use tax incentives for the formation of capital pools to finance business start-ups?

LEVIN: Venture capitalists traditionally do not look at new low-tech businesses. If we are going to foster accelerated growth in these businesses, which is essentially what areas like eastern North Carolina need, we have to do something to provide start-up money. Banks are not going to give it because they are not in the business of providing that kind of money to new businesses; they are essentially asset lenders. Venture capitalists are not going to loan them money because it is not a sexy enough venture—they are looking for a 30 percent return and paybacks within five years. I am not sure that new small low-tech businesses can provide them with that outlet, which is a real conundrum. To get lenders to loan money, we must make it less risky.

To get a bank to loan money to a new business, I propose a two-pronged approach. First, rigorously screen the entrepreneur. Train her, educate her, make her pass all kinds of hurdles and requirements, and have her write a business plan. When you are satisfied that she has a reasonable probability of success, you have to find her some money. Finding the money is the difficult part. I think you have to subsidize a lender for the perceived risk. If the risk involves losing money half of the time, it makes sense that either the lender has to charge at least twice what she would normally charge, or we have to subsidize the lender, much like the Small Business Administration does. The state should say, "We'll have a fund. We know you're going to lose money x percent of the time; we'll subsidize you."

We subsidize people for growing tobacco; we subsidize people for not growing tobacco. We subsidize people for producing milk that nobody wants at a price that is too high. Why not subsidize this process? It seems to me a reasonable question. It is the notion of losing all that money that scares people. We will lose a lot of money, that is a given. The fear must be overcome in order to proceed. We have been very reluctant to get into a business in which we will lose much more than half of our money, but that is the business we have to initiate. We cannot wait until the probability of loss is very low.

There is enough money in Research Triangle for high-tech deals, but there is no money available for low-tech deals.

CP: And low-tech deals tend to be in rural areas?

LEVIN: I think that is what rural areas are about. One cannot open up a silicon chip plant in rural North Carolina. There are many opportunities for small service and product businesses that we need to pursue. The development effort needs to go forward on three or four different levels. One cannot stop trying to recruit large companies—nor should one. But the state's effort is unbalanced.

What I propose is not a give-away by state and local governments. Starting a new venture is no place for sympathy or give-aways. It is a place, however, where enlightened government bodies should back rigorously selected and trained people in a carefully analyzed risk-taking venture, aware that it can and may fail, but also knowing that this is how jobs are likely to be created in our state.

If you are lucky enough to invent the next Apple computer or a new laser device which breaks up kidney stones, venture capital folks from all over America will probably find you and beat a path to your door with money and advice. But if you live ten miles from Ahoskie or in Everetts, North Carolina, and you want to pursue a sound, low-tech idea that has the possibility of creating ten jobs in the next five years—an idea that is sensible, but not sexy—then your road is a rocky one. And that is the kind of entrepreneur we need to focus on in rural North Carolina. The venture capitalists will find the high-tech stars, but they will never find the low-tech venture in Everetts.

North Carolinians ought to look at this whole idea as an investment. Suppose in the next five years we fund 1,000 of these new low-tech ventures with $20,000 each. That is a $20,000,000 gamble. Now suppose that only one in five makes it. We can get the success ratio to one in five with heavy screening, education, and mentoring. Suppose each of the ventures that makes it creates 20 jobs in five years, that's 4,000 new jobs, and we spent $20,000,000, or only $5,000 per job created. And we have not even ciphered in the repayments of the $20,000 loan that the successful firms will make. There is no more efficient way to create jobs in North Carolina. It is possible

Incubators can serve as useful tools for small business development.

with some good planning to accomplish this goal in a short time, if we have the support we need.

CP: How would you address the problem of unbalanced growth between North Carolina's rural and urban areas, since entrepreneurs, educational institutions, venture capital, and other resources are more concentrated in urban areas?

LEVIN: I am leery of policies that restrict plant location to certain areas. Philosophically, I tend to lean more toward incentives than I do restrictions, and to solve problems involving people with incentives, which may be sufficient. It may be that there are tax incentives or direct payment incentives to new large companies that would induce them to move to rural areas. Of course, planners and developers would say that businesses locate where there is an adequately trained and motivated labor supply, which tends to be lacking in rural areas.

CP: In addition, rural areas are often unable to attract business. Don't rural entrepreneurs themselves lack access to capital, management assistance, and other resources?

LEVIN: That's why the Small Business Centers and Small Business and Technology Development Center are good ideas — they are located throughout the state. I would like to see more of these initiatives. There has been comment over the last year or so that there are too many different such operations focusing on the same problem. That does not bother me. I think that putting it all under one umbrella would create a large bureaucracy. I think the secret is not to try to regulate, control, or organize them, but to put in place largely voluntary communications mechanisms. We need aggressive people helping companies, with an awareness of what their counterparts are doing. The need is so massive that we are not going to meet it in the next five years. ☐

Heidi Walter Powell is a Master's candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill with a concentration in economic and community development.

Small Business Incubators: A Tool for Economic Development

Robert D. Atkinson

This article describes how incubators can help small businesses. It examines and presents examples of four types of facilities in the United States. The author addresses the question of how the effectiveness of incubators can be evaluated and concludes by discussing the North Carolina Incubator Facilities Program.

Small business incubators have been in existence in the United States since the early 1960s, predominantly in the Northeast. A profile of incubators completed by the Hubert Humphrey Institute of Public Affairs (Temali and Campbell, 1984), found that only two of the 30 incubators reviewed opened prior to 1971. The remaining 28 have opened since 1978. In spite of a lack of information on the effectiveness of small business incubators, state and local policymakers increasingly view them as viable economic development tools.[1]

Just as an incubator provides a warm and supportive environment for baby chicks to grow and become healthy, a small business incubator provides an environment designed to increase the survival and growth rates of new and young small businesses by providing a combination of below-market rent, flexible space, shared services, management assistance, and access to capital. Incubators often occupy older industrial buildings that have been rehabilitated and subdivided to hold many small firms. The facility "incubates" the firm until it can enter the community as a healthy, growing business. Incubators are based on the idea that firms' chances of success and growth increase if they are provided with the right supportive environment during the critical early period of the business life-cycle. This process provides the community with additional healthy small businesses and a subsequent increase in jobs and incomes.

How Incubators Address the Problems of Small Businesses

Incubators are designed to address four problems which new and young small businesses encounter: (1) inadequate management, marketing, and accounting skills; (2) inability to gain access to adequate amounts of capital; (3) problems associated with space, including poor quality, high cost, and inappropriate size; and (4) problems associated with business services including high cost, poor quality, and unavailability. This section assesses the severity of each problem for small firms and discusses how incubators solve each of these problems. The information is based on both national information concerning small businesses and a study of incubators and business needs completed by the author.

Management Skills

The major problem facing small businesses is a lack of adequate management skills. According to a 1977 Dun and Bradstreet publication, *The Business Failure Record*, over 90 percent of small businesses fail due to poor management. Poor management is defined as a lack of relevant business experience, lack of managerial experience, and incompetence at running a business. The report goes on to state that almost 55 percent of the firms that failed were less than five years old and 80 percent were ten years old or less. Other studies substantiate the assertion that the major problem of small businesses is inadequate management skills (Dandridge 1970; Kennedy 1976; Said 1977; Stahrl 1979).

Many entrepreneurs who manage young or start-up ventures lack the managerial, marketing and accounting skills needed to make their enterprise successful. In addition, many small business people cannot afford the time or money for management advice and are often reluctant to admit that they may need help. Incubators address these problems in four ways. First, they can work with local educational institutions and business management professionals to provide management education and assistance to owners of incubator firms. Often this assistance takes place on-site, either through classes or individual consultation. Second, an on-site incubator manager, trained in business management, can provide business people with day-to-day management, marketing, and accounting assistance. Third, entrepreneurs in incubators, because of their proximity to each other, have increased opportunities to share advice and solve problems. Fourth, an advisory

board or board of directors composed of local professionals and business people can offer its expertise and advice to tenants of the incubator at a low- or no-cost rate.

Incubators perform two functions that other types of management assistance do not offer. First, the combination of on-site management and tenant interaction provides assistance when and where it is needed. Instead of waiting days, and often weeks, for class sessions or consulting appointments, tenants can resolve problems as they occur. Second, incubators provide an environment in which business people are encouraged in an ongoing process to improve their management skills and practices. Many entrepreneurs feel they are too busy running their establishments to attend a class or engage in business planning. In addition, they may be unaware that they could improve their management skills. The structured environment of the incubator provides an opportunity to spend the time needed to improve management skills.

Access to Capital

A second major problem faced by new and young small businesses is that it is difficult to obtain adequate amounts of debt and equity capital. This inability to secure funds can result in severe undercapitalization, crippling a firm's chances of survival and its ability to expand. By definition, a new business is a risky activity; banks and other institutional lenders are hesitant to provide this type of risky capital to small ventures (Pfeffer 1967; United States Small Business Administration 1984). One study found that banks provide only 2.2 percent of start-up capital for new firms (Kieschnick, 1979). Small businesses also have significant difficulties in equity markets. New businesses are virtually shut out of the stock market (Herzog, 1982) and venture capitalists lend to only a small percentage of firms who usually show strong growth and profit potential and have a strong "track record." Because of these constraints, small enterprises often finance their ventures with savings, second mortgages, and loans from friends and family. As a result, their businesses are often undercapitalized, resulting in higher risks of failure and slower growth.

Incubators can address the problems of small business undercapitalization. Incubators can work with local public business loan programs, which give incubator tenants high priority for loans. Incubator managers can work with tenants and local lenders to increase the availability of loans to firms in the incubator. Lenders may feel that the on-going management assistance and lowered costs in an incubator make firms located there a better credit risk and may be more willing to loan them money. Managers can bring prospective venture capitalists into contact with tenants. The organization developing the incubator can establish its own venture capital fund for financing incubator tenants. When the firm has graduated from the incubator, it can repay its loan at a rate that allows the fund to be sustainable. Finally, incubator managers can serve as referral agents to help firms apply for government funding, including U.S. Small Business Administration loans and state and local business loan programs.

Space

New and young small businesses face many problems with respect to the space necessary to operate. Industrial and commercial space is often too expensive and inappropriate in size, type, or location. Due to facility constraints, most firms cannot expand on site; as their business grows they incur extra costs and disruptions of repeated moves and renovations.

Incubator facilities can lower the cost of space to their tenants in two ways. Incubators may have access to public subsidies or land and/or building donations that allow the incubator to charge below-market rents. Public subsidies such as the donation of public buildings, property tax waivers, grants, and no interest or below-market rate mortgage loans, all lower the operating costs of an incubator facility. In turn, these savings can be passed on to tenants in the form of lower rent. Privately developed incubator facilities may not be eligible for these public subsidies, forcing them to pay their operating costs with rent revenues. As a result, private facilities usually cannot charge below-market rents. However, private donations of buildings and/or land, long-term below-market leases, and grants can also lower the operating costs of private incubators.

Incubators also lower space costs by taking advantage of economies of scale and shared facilities. A small space costs more per square foot than a large space because of the fixed costs of facilities provided with each space. Moreover, it costs more to divide large spaces into smaller spaces. An incubator does not necessarily need to charge higher rates for smaller spaces because all tenants in the building may share conference rooms, restrooms, reception area, or main office.

Incubators can supply properly located, well designed, and appropriately serviced small spaces for start-up businesses, which are often unavailable in the marketplace. In addition, as new firms grow or contract they may have to move several times, resulting in wasted time and increased expense. Incubators can provide space that allows for expansion and contraction on site. This adaptability lowers operating costs for businesses because they can rent as much space as they need at any given time with the option to expand on site.

Business Services

Small business people can encounter three problems with business services: availability, cost, and quality. If certain business services are not available locally, an incubator can provide them to its tenants. In addition, incuba-

tors can develop referral lists that link providers of quality and specialized technical resources with incubator tenants.

Often the most significant problem business people encounter with services is cost. Many small firms cannot afford marketing consultants or a business computer. Incubators can lower costs by providing services that are shared among the incubator's tenants. For example, an incubator can provide shared equipment, such as a business computer, for which tenants pay on a per use basis. Similarly, tenants can share bookkeeping, satellite or cable communications, copy machines, telephone answering, and clerical help. Other shared services that can contribute to lower costs include a business and technical library, equipment and tools, and janitorial and security services.

Incubators can lower the cost of off-site services such as marketing or legal consultation. They can provide a subsidy for the tenants to be used towards the cost of these services and they can also form a network to provide services at a reduced rate to all tenants in the incubator. Further, a board of directors can volunteer its time to provide services to individual tenants.

Types and Examples of Incubators

There are four different types of incubators in the United States: public, private non-profit, academic, and private for-profit. Although there are hybrids of these types, almost all facilities fall into these categories. Public incubators often form part of a state or local economic development program designed to advance specific policy goals. Private non-profit incubators organized by industrial or community development organizations often try to address the problems of certain areas or subpopulations. Academic incubators are organized under the auspices of a specific university to take advantage of its particular research capabilities. The academic incubator usually facilitates the successful development of university research

Neighborhood and community leaders in Goldsboro, North Carolina (population 40,000), celebrate the beginning of renovation work which will convert a 27,000 square-foot abandoned high school from an eyesore into an incubator, expected to bring badly-needed businesses and jobs into the community. The effort is being financed through state and local funds along with donations from private foundations.

into viable business enterprises, and serves as a business laboratory for students and faculty. Private for-profit incubators are owned by private corporations oriented toward economic success. They operate similarly to the other types. This section provides case studies of each of the four types of incubators.

Local Government-initiated and -run Programs: The St. Paul, Minnesota, Incubator

St. Paul, Minnesota, developed its incubator in 1983, as part of its "Homegrown Economy Project," the goal of which is to produce a more self-sufficient and diversified local economy. The city used $550,000 of its grant funds from the Emergency Jobs Bill to provide a low-interest mortgage to the owner of the building that houses the incubator. In return, the owner leases 20,000 square feet to the SBA 503 development corporation that manages the project. Rents in the incubator portion of the building range from $2 to $2.50 per square foot as compared to $2.50 to $3.50 for other space in the building. Rents are raised every year for each tenant so that by the third year tenants pay close to local market rates.

The incubator managers initially thought all tenants would need centralized services. However, this was not true: now the incubator provides no shared services. The managing organization and the city's Business Revitalization Department provide both formal and informal management assistance and business financing. Currently, the facility houses seven tenants who provide 32 jobs. These firms include a manufacturer of energy-saving boiler devices, a jewelry manufacturer, and an employment consulting firm.

Private Non-profit: The Fulton Carrol Center, Chicago, Illinois

The Fulton Carrol Center was established by the Industrial Council of Northwest Chicago in 1980. The goals of the project were to revitalize a deteriorating industrial and residential area and to create jobs for the area's low-income residents. The Council used a $1.7 million U.S. Economic Development Administration grant to purchase and rehabilitate an aged, run-down industrial building. The size of the facility is quite large — 340,000 square feet. Rents approximate local market rates at $1.30 to $2 per square foot, depending on size and location.

The center provides an array of services, including word processing, phone answering, copying, and health insurance at cost. Access to receptionist services, conference rooms, a library, and a lunchroom are included in the rent. The center employs a full-time, on-site manager who performs a number of duties designed to assist firms. She has become familiar with the businesses, their operations, and their problems and, as a result, can employ timely and knowledgeable intervention when needed. She explained that many business people are reluctant to seek outside assistance. The advantage of an on-site manager, in her opinion, is that business people will talk to her informally about numerous small, but potentially serious problems before they become insurmountable. Firms can receive more formal management and financial assistance from the Westside Development Corporation, a tenant in the incubator. Most of the Fulton Carrol Center's 24 tenants are light industrial firms, including a furniture maker, metal fabricator, and an exhibit booth producer. The center has been successful at helping firms to interact and cooperate — over 18 businesses buy and sell goods from one another. The incubator firms have created over 150 jobs.

University Related: The Rensselaer Polytechnic Institute Incubator (RPI), Troy, New York

This incubator was developed by RPI to promote the commercial application of research at the university and to encourage graduates and faculty to start their own technology-related businesses. The 40,000 square foot facility, which opened in 1980, provides a link between the technical and educational resources of the university and the entrepreneurs starting firms. Funding for the facility was provided by a number of sources, including RPI, the City of Troy, the New York State Development Corporation, and industrial development revenue bonds. Rents, at $6 per square foot, are 60 percent below local market rates. Among the ten tenants are a computer software developer, a high-tech business consultant, and a biochemical reactor developer. These and other firms in the facility have produced an estimated 140 jobs.

RPI's facility provides a comprehensive array of well-used services: reception, telephone answering, bookkeeping, copying, computer rental, conference rooms, jitney, and laboratories. Management and financial assistance include business planning, a $1,500 stipend for each firm to be used towards purchasing business or technical consultation, and access to business consultants or lawyers at 25 percent below market rates. The incubator manager also provides informal management assistance to firms. The incubator facilitates financing by acting as a broker with traditional lending sources.

Private For-profit: Technology Centers International (TCI)

TCI, founded by Loren Shultz, operates five centers across the nation and plans to open at least six more. TCI's goal is to "promote the development, growth, and success of small, technologically-oriented businesses." The facilities range in size from 20,000 square feet in Montgomeryville, Pennsylvania to 100,000 square feet in Minneapolis. Some are funded entirely by private sources; others have been

funded in part with public monies. The centers generally provide an array of services at market rates including telephone answering, typing, mailing, computer rental, and van and equipment rental.

Each center has a "champion" who is available to help tenants with business and financial planning and marketing. Each center is associated with a local and national venture capital fund set up by TCI. Not all companies in the incubator have access to this fund; only technologically-oriented companies with tremendous growth potential are eligible. Both the champion and TCI often receive a share of ownership in these companies, with TCI receiving a significant portion of the company in exchange for an infusion of equity capital. Among the manufacturing and service sector firms housed by the centers are a print shop, a dance studio, a medical equipment testing company, and light assembly firms.

The Problem of Evaluation

As illustrated above, there are significant differences in the operation, organizational structure, and purposes of incubators. Partly because of this variation and complexity, it is difficult to assess the performance of business incubators. Most are relatively new and have not had time to establish a track record. More importantly, it is difficult to determine how to measure success rates. However, the increase in state and local economic development efforts and the increasing popularity of incubators in recent years as an economic development tool make evaluation imperative. It is important to address the problem of evaluating the effectiveness of incubators in meeting their economic development goals.

Incubators usually point to low vacancy rates, high numbers of graduated firms, and jobs created as indicators of their success. However, these measures are inadequate and can be deceptive. For example, operating with low vacancy rates may be a reflection of below-market rents — they may not be meeting the community's business needs. Similarly, graduation rates for firms, and figures on the number of jobs produced, are incomplete indicators of performance. If an incubator selects tenants that are healthy businesses with high chances of success, they are likely to show low failure rates and high job-generation rates. Conversely, an incubator that selects riskier, less experienced firms, is more likely to provide greater assistance, but may show higher failure rates and lower job generation rates, thus appearing less successful. An incubator is successful only if it assists firms that would have failed more quickly or grown more slowly had they not received assistance. Job creation figures alone do not indicate success since the jobs may have been created even if the firm had not entered the incubator and instead had rented space in the open market.

This assertion is not to suggest that figures on vacancy rates, numbers of firms graduated, and number of jobs created are not meaningful. Rather, these indicators should be used with caution when evaluating the performance of incubators.

Two alternative criteria for evaluating incubators are: (1) how well firm selection policies fit with effective economic development theory; and (2) how well incubator operations meet local business needs and conditions. Although it is beyond the scope of this paper to determine how these measures are to be operationalized, the following discussion explains why these are useful criteria.

Economic Development Principles and Firm Selection Criteria

The first criterion by which to evaluate firm selection policies is consistency with the goals of the incubator. Incubators vary with respect to their economic development goals. Some are concerned with revitalization of a blighted or depressed area of a city and provision of jobs to a certain group of people; others concentrate on increasing the number of jobs in an entire city or region. The main goal of the St. Paul incubator is to diversify the local economy, create jobs, and increase income in the city by encouraging the growth of manufacturing firms that either increase exports from the region or decrease imports. Because these activities bring dollars in, or reduce the flow of dollars out, they create new jobs.

The Cascade Business Center, located in a low-income, blighted area of Northeast Portland, Oregon, is an example of an incubator attempting to revitalize a blighted area and employ or create business opportunities for area residents. Most of the firms in the Portland incubator are service firms that sell their services in the Portland metropolitan area. Because these firms do not increase exports or reduce imports to Portland, they do not significantly contribute to the economic development of Portland. However, if the importing and exporting region included only Northeast Portland, these firms would contribute to local economic development by decreasing imports and increasing exports.

It is important to distinguish between these two types of incubators when evaluating firm selection policies. An area redevelopment incubator can attain its goals by choosing tenants, such as certain service firms, that transfer jobs and income within the city. If the goal of the incubator is to increase income and net new jobs in the overall area, it will be most successful if it chooses tenants who increase exports or reduce imports from the total city or region the incubator serves. Evidence suggests, however, that many incubators do not use firms' selection criteria which follow this latter model. According to a recent survey of incubators, when asked which firms an incubator would accept as tenants over 40 percent said they would accept wholesale firms and over 20 percent said they would accept retail firms. (Allen and Daugherty, 1988). To the extent that economic development incubators

The town government of Ahoskie, North Carolina (population 5,000), donated this 20,000 square-foot downtown building for conversion into a small business incubator.

choose non-exporting firms such as these, they reduce their effectiveness at creating net new jobs.

A second criterion by which to evaluate firm selection policies is whether the incubator selects firms that would either fail or not expand as quickly without the assistance the incubator provides. In other words, incubators are most effective when they select firms that need assistance. If an incubator selects firms that do not need assistance and are entering the incubator only for reduced rent or cheaper services, then the benefit to the community will be minimized. The distinction between capable firms and those that need help is difficult to determine. It is a distinction that incubators, as well as other economic development assistance programs, should make. Only if this distinction is made will limited resources be put to their best use.

One of the drawbacks of funding private for-profit incubators with public money is that, because they tend to charge higher rates than non-profit incubators and select firms that have a higher likelihood of success, they are less likely to correct a market failure. The public interest component built into public and non-profit incubators, makes them more likely to structure selection policies to correct a market failure by helping firms that would not otherwise survive. Thus, they increase the number of net new jobs in the community.

Operating Guidelines To Meet Business Needs and Local Conditions

Another criterion for evaluating incubators is how well they help solve problems new and young businesses face. As noted above, the two most common reasons for business failure are a lack of management skills and an inability to obtain adequate amounts of capital. Incubators that address these problems are most likely to provide needed assistance. Hence, the provision of management and capital assistance is a criterion by which incubators can be evaluated. In many instances, incubators that provide only below-market rent and shared services are unlikely to significantly increase the survival rates of businesses because they fail to address the major causes of business failure.

While providing management assistance and access to capital may contribute most to business success, many incubators offer neither of these services. Many incubators offer only below-market rent and a smattering of shared business services. For example, the incubator in Buffalo, New York, was established to encourage new industries to relocate to Buffalo, and only provides reduced rent as an incentive for relocation. Other incubators, including the Bradley-Roper incubator in Rockford, Illinois, and the incubator in Bennington, Vermont, provide no on-site management assistance and only minimal access to external management and capital assistance. Such assistance can be critical to the survival of incubators' firms. In the East End Manufacturing Center in Chester, Pennsylvania, which does not provide management assistance, one growing firm failed and another lost several important contracts because of serious, but correctable, management mistakes. The incubator's manager believed that these two

firms would have been successful if the facility had a mechanism in place to identify and correct business problems before they became serious.[2] Lack of on-site management and capital assistance limit incubators' ability to have a significant impact on firm survival rates and growth possibilities.

While many small businesses face common problems, local conditions differ affecting decisions whether to establish an incubator, and what problems it should address. The accurate assessment of local needs is essential for determining the feasibility of and need for an incubator. For example, in many cities, especially those facing economic distress, the cost of space is not high. As a result, incubators in these cities may not need to charge reduced rent. Some areas may have unique needs which need to be determined and addressed. For example, the area around the Fulton-Carroll Center in Chicago has a high burglary and vandalism rate. There the incubator was able to adapt to that problem by providing increased security services for firms in the incubator.

It is unlikely that incubators are appropriate for every area. One of the central requirements of an incubator is the existence of an adequate number of people willing and able to start small businesses. In smaller, more isolated communities, this base may not be available—there may not be enough people who have the skills and the desire to enter the incubator with a new business idea.

Evaluating the North Carolina Technological Development Authority Incubator Facilities Program

The previous section discussed conventional and alternative ways of evaluating incubators. This section uses these evaluation types to examine North Carolina's incubator program. North Carolina was one of the first states to set up a state incubator program, with the establishment of the Technological Development Authority (TDA) in 1983. TDA's purpose is to "increase the rate at which new jobs are created in all regions of the state by stimulating the development of new and expanding small businesses."[3] Its Incubator Facilities Program (IFP) works to meet that goal by providing funding to local non-profit development corporations to establish and manage incubator facilities. To date, it has provided funds to establish seven incubators throughout the state and it currently has funds to establish four more.

TDA furnishes up to $200,000 for facility construction, purchase, or renovation costs to non-profit organizations seeking to establish incubators. An additional $35,000 grant may be awarded to help cover first-year operating costs. The county, city, or non-profit corporation initiating the project must provide matching funds either in cash or real estate.[4]

To date, TDA has helped establish six incubators in Haywood County (1984), McDowell County (1985), Ahoskie (1985), Goldsboro (1985), Charlotte (1987), and Dunn (1988). A seventh facility in Greensboro is planned. Though most of the incubators are located in the Piedmont region, TDA has an aggressive outreach program to encourage projects from all parts of the state.

Evaluating the Program

As of January 19, 1988, the six North Carolina incubators available for occupancy housed 28 firms, employing 92 people. The occupancy rate of the rentable space ranges from 18 to 100 percent. However, given the recent initiation of many of these projects, job and vacancy rates are likely to underrepresent performance. In addition, as discussed above, vacancy rates and employment figures are incomplete indicators of performance. Other factors, including the type and performance of firms the incubator selects, the types of services provided, and the fit with local conditions are important factors in evaluating effectiveness.

Firm Selection

Incubators will be most successful if they limit the businesses they select to those that contribute to the area's economic base and those that are in need of assistance. TDA's enabling legislation does not limit the types of firms that can occupy an incubator. The local organizations running the incubators have complete freedom over the types of firms they choose as tenants. As a result, TDA cannot require local organizations to choose only those firms that require assistance and contribute to the local economic base. TDA does discourage incubators from accepting tenants that relocate from existing commercial space, on the grounds that these firms are not truly in need of assistance. In addition, they encourage incubator managers to seek out and encourage light manufacturing firms.[5]

Operating Guidelines

As discussed above, provision of management assistance and access to capital appear more important in increasing the rate of small business success than simple provision of low-cost space. TDA requires the incubator management to provide technical and management assistance to tenants, either on-site or through working relations with universities, community colleges, or technical institutes. However, it does not require that management help firms gain access to capital. In addition, making on-site management assistance optional, rather than mandatory, means the incubators are less likely to address major problems facing small businesses.

Fit with Local Conditions

Incubators that address local conditions are the most likely to be considered successful. TDA requires the initiating organization to determine the potential feasibility of

the incubator before receiving funds. This includes determining the availability of a small business support network and the level of entrepreneurial activity in the area. In addition, the organization is encouraged to determine the demand and supply of commercial real estate in the area and the nature of the economic base in the area. These practices appear to increase the likelihood that incubators will fit local conditions.

TDA appears to follow practices with respect to operating guidelines and fit with local conditions that are likely to lead to effective performance. However, TDA may be supporting firms that neither need assistance nor contribute to the economic base of the community or the state because it does not limit the types of firms the incubators may accept. In addition, business success and growth rates may be reduced without a requirement of on-site management assistance.

Conclusion

Incubators are growing in popularity as an economic development tool. They attempt to increase the survival and growth rates of new and young small businesses by helping business people solve problems usually encountered when starting and running a small business. Incubators can address the most important problems small businesses face, i.e., inadequate management skills and difficulty obtaining adequate amounts of capital. Incubators can also assist businesses with problems related to space and business services.

It is extremely difficult to assess the performance of existing incubators due to both their newness and to the difficulty in measuring actual contributions to business success. Functional measures, such as the number of jobs created, do not yield adequate indicators of success. Other more effective indicators that might be employed to assist evaluation of incubator performance include: consistency of firm selection policies with effective economic development principles and operation guidelines that meet the needs of businesses and address local conditions.

Incubators are more likely to be successful in meeting economic development goals if they select tenants who would survive only with the incubator's assistance. If the incubator's goal is to increase income and jobs, it should select firms that increase exports and decrease imports. Incubators can facilitate the survival rate of small businesses by providing effective management assistance and by increasing the availability of capital to the tenant firms. The simple provision of below-market rent and some shared services will not be as effective as providing management and capital assistance. Also, local conditions and needs vary and should be taken into account when designing an incubator. Incubators that follow these policies are likely to be successful at meeting local economic development goals. ☐

NOTES

1. This paper was initially presented at the New Perspectives in Planning in the West Conference, Tempe, Arizona, April, 1984. The paper is based on the following study of small business incubators and their applicability for Eugene, Oregon: Elizabeth Evans, Robert D. Atkinson and Lance Holmstrom, "Small Business Incubators: A Tool For Local Economic Development," (Community Workshop Project for the City Planning Department of Eugene, Department of Planning, Public Policy, and Management, University of Oregon, 1985). The author wishes to thank Michael Hibbard, Lance Holmstrom, and Helen Liggett for their assistance with and contributions to this paper.
2. Interview with manager of the East End Manufacturing Center, Chester, Pennsylvania, June, 1984.
3. North Carolina's Technological Development Authority's Incubator Facilities Program Request for Proposals: 1987-88.
4. For more information about North Carolina's Incubator Facility Program contact the Technological Development Authority, 430 North Salisbury Street, Raleigh, North Carolina, 27611.
5. Discussion with TDA Staff, March 11, 1988.

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Robert Atkinson is a Ph.D. candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill.

"FORESIGHT": Catawba County, North Carolina Planning Its Economic Future

Thomas Lundy

Catawba County has successfully implemented an innovative strategic planning process. Drawing wide support from both the public and private sectors, this initiative has brought community leaders together to provide guidance for the future economic development of the county. This article outlines that process.

Introduction

In April of 1985, the Catawba County Board of Commissioners authorized the creation of a long-range strategic planning effort called "FORESIGHT" and subtitled "Catawba County's Continuing Search for Economic Excellence." Serving as a joint venture between the public and private sectors, the process drew its strength from a wide range of Catawba County's population.

According to Public Technology, Inc., a national leader in assisting with strategic planning, ". . . to our knowledge, Catawba County is the first jurisdiction, either city or county, in the State of North Carolina to complete a strategic plan and, on a national basis, one of the first counties in its size range to undertake strategic planning."

What is Strategic Planning?

Strategic planning is a positive way to manage change and to influence a community's future. It is a proactive process that has been used by the private sector since the 1960s and is increasingly being used by local government. It allows a community to examine its strengths and weaknesses, its opportunities and constraints, to overcome misconceptions and develop community consensus, and to get ahead of its competition. It is a personal process, tailored to the specific needs and available resources of a community.

The strategic planning process allows government to develop a partnership with the private sector. It is an opportunity to take the planning process outside of the county courthouse or city hall and allow different groups and individuals to act on the same information. Tom Peters, in his new book, *Thriving on Chaos*, says, "a good strategic planning process gets everyone involved, requires (a) lot of time and (vigorous) debate, is not constrained by overall assumptions, is not to be left to planners, and is perpetually fresh, forcing the asking of new questions."

Public Technology, Inc., views the strategic planning process as "an opportunity to create and share a mutual vision of what a county or city will be. This shared vision can link individual efforts in pursuit of consensus goals."

Through the strategic planning process, a community can enhance its ability to attract business and industry, tourism, financial resources, and trained workers. Rather than replacing traditional types of planning, such as land use and budgeting, strategic planning integrates planning processes and broadens participation to create a shared vision of what a community can become.

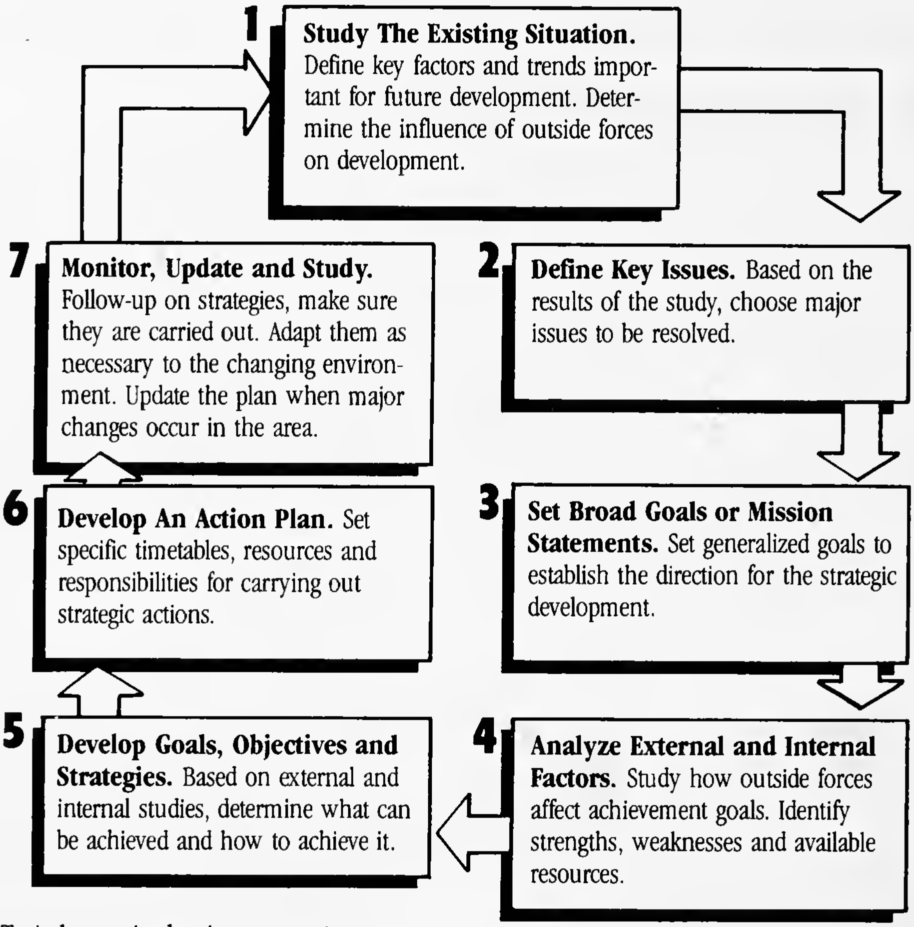
The Strategic Planning Process

Strategic planning calls for the outlining of explicit strategies, the listing of clear steps and the identification of key actors responsible for implementation. It is critical that a community carefully monitor the implementation of its strategic decisions to ensure that those decisions are carried out.

In the Beginning

The County first began discussing strategic planning on a staff level in December of 1984. Catawba County was enjoying a strong local economy, with high per capita income, a rapidly growing urban area, and a successful ten-year industrial development effort to diversify the economy. At the same time, however, the area had sustained declines in the furniture market and reductions in air service to Hickory Municipal Airport. Fragmented efforts in economic development and transportation strategies also existed among the Chamber of Commerce, the business community, the municipalities, and the County.

Following a work session by the Board of Commissioners in April, 1985, at which it authorized the concept of strategic planning, members of the county staff began to organize and focus the process. Discussions with national



Typical strategic planning process steps.

strategic planning consultants and the Western Piedmont Council of Governments (WPCOG) led to recommendations that the Board of Commissioners authorize, fund, and organize the process, but that the private sector carry it forward, free from intervention or oversight by the County government.

In August of 1985, the Board formally appointed a twenty-member steering committee, composed primarily of chief executive officers of the county's major corporations.

The Steering Committee members represented the fields of banking, fiber optics, law, food distribution, higher education, insurance, real estate, hosiery, furniture, government, investment, and advertising, and included the past and current presidents as well as the president-elect of the Chamber of Commerce.

FORESIGHT Steering Committee Membership Criteria

1. Knowledge about the concept of long-range (five to twenty years) strategic planning.
2. Willingness to commit time and energy for a two- to four-year period.
3. Ability to influence or mobilize the resources of the community, to ensure that emerging strategies will be acted upon.

The county contracted with the Western Piedmont Council of Governments to staff the entire strategic planning effort. The WPCOG was chosen because of its familiarity with the local area, its research capability and its access to resources. The County required that the WPCOG contract with Public Technology, Inc. to ensure that major steps within the planning process were guided by the consultant's national experience.

Selection of a strong Steering Committee chairperson was a critical step. The Board of Commissioners selected a person with stature in the community, enthusiasm for the project, and a willingness to devote a great deal of energy to the process. The chairperson was willing to lead the process but did not try to control it.

FORESIGHT Steering Committee Guidelines (set by the Board of Commissioners)

1. Focus the scope of the study on the long-term economic vitality of Catawba County.
2. Look beyond the county government's role when preparing a list of recommended steps for different community actors to take.
3. Limit discussions to four issues, a manageable number.
4. Appoint task forces to examine each of the major issues, and require representation from the various segments of Catawba County on each task force.

Elements of a Successful Process

1. Governing boards committed to long range planning and willing to let the process work without interference.
2. A process focused on a specific goal (such as economic growth) and limited to a manageable number of topics.
3. A private sector committed to the economic development of the area.
4. The appointment of "movers and shakers" to the Steering Committee.
5. Specific mission statements that identify for the Task Forces the concerns of the Steering Committee.
6. The active involvement of the press. It is important to explain the process to the press and to encourage its coverage.
7. The use of professional expertise from an outside agency to direct the process (COG, university, community college, state or national consultants).
8. Continuation of the process through the implementation and monitoring stages.

Work Begins

The Steering Committee began work in September, 1985. The WPCOG prepared an 80-page community analysis, which included studies of the local economy, population, education, infrastructure, housing and real estate. The community analysis focused the committee's attention on existing conditions and brought the group together on common ground. It showed, for example, that among North Carolina's 100 counties, Catawba had the highest percentage of daily commuters. The analysis also pointed out that Catawba County was the fifth largest exporter of manufactured goods, that it had a vibrant entrepreneurial spirit and a tradition of strong governmental cooperation. Other findings revealed that the county's three school systems were average in education in a state that is below average, its highway district was last in the state in per capita expenditures for highway funds, and 51 percent of the county's jobs were in manufacturing.

By November of that year, the Steering Committee had chosen four key issues for in-depth analysis: education, transportation, jobs and business creation, and government services. Other topics considered by the committee, but not chosen for further analysis included housing, health care, marketing, image, quality of life, culture and recreation.

Mission statements were developed to define the boundaries for each of the four issues. For example, though higher education was recognized as an important component of the county's economic vitality, time and energy constraints required the mission statement on education to focus on grades K through 12. In addition to setting a general goal for each of the four issues, the mission statements included specific objectives which helped identify the kind of analysis that was desired by the Steering Committee.

After developing the mission statements in December, 1985, the Steering Committee appointed 80 task force members to represent the county geographically, racially, by professional group, and by business occupation. It is important to note that the Steering Committee, and not the Board of Commissioners, appointed task force members. Out of 81 people approached to be on the task forces, only one declined.

Logistics concerning the timing, structure, and delegation of responsibilities proved important in making the task forces' time productive. The large number of participants required the establishment of a regular meeting schedule. WPCOG staff members sent notices of meetings, determined agendas, kept minutes, arranged for speakers, performed research, and wrote final reports. Public Technology, Inc., added guidance during critical points in the decision-making process. Strong task force chairpersons were selected to keep meetings on track and to help present final recommendations to the Steering Committee. Little work was scheduled for the summer months to avoid conflicts and to ensure maximum participation. All task forces met concurrently allowing all four issues to be analyzed and developed on the same schedule.

Between January and July of 1986, the task forces heard experts and leaders in particular topic areas and visited program sites. Fifty-eight strategies were developed by the task forces and recommended to the Steering Committee in October of 1986. The recommendations identified key actors for each of the implementation strategies. Among those playing this role were the Chamber of Commerce, the Board of Commissioners, the three school boards, the municipalities, the Industrial Development Commission, the County Planning Board, the Metropolitan Planning Organization, the League of Women Voters, political parties, and Hickory Airport's fixed base operator.

Recommendations for Avoiding Potential Pitfalls

1. Underfunding. The FORESIGHT Process cost $53,000 for the first 24 months. This figure included the contract with the WPCOG and PTI and the printing of a final document. The County received a $6,000 contribution from the Chamber of Commerce. Phase II of the project—implementation and monitoring—is expected to cost $25,000. This works out to approximately $20,000 a year over a four-year period.
2. Insufficient time. Enough time should be allowed to insure that the effort is properly staffed and organized, participants are trained, data is collected, and good decisions are made.
3. Over-reliance on staff. The Steering Committee must take ownership of the process.
4. Duplication of effort. Focus on areas not already addressed through other programs.
5. Underestimating the availability of local or regional resources. Assume the availability of a broad range of resources.
6. Skimping on research. Adequate research to establish a common base of information is extremely important.

Tangible Results of the FORESIGHT Process

1. Both political parties have agreed to strive for representation on the State Board of Transportation.
2. The release of the most recent North Carolina Transportation Improvement Program (TIP) advanced several of the projects in Catawba County.
3. The Chamber of Commerce adopted FORESIGHT's recommendations as the prime component of its 1987 and 1988 agendas.
4. The Catawba County Government has made a major financial commitment to increase the salaries of teachers, to fund additional teaching positions in art, guidance, music and foreign language and to provide funds to begin a merit system in the schools.
5. The three boards of education have indicated their support of the FORESIGHT Committee strategies and have held several joint meetings to discuss ways to improve the quality of education.
6. A private, non-profit Council for Educational Excellence has been established to increase citizen awareness concerning the link between quality education and economic growth. Funds from public (state and local) and private sectors have been obtained and a nationwide search for an Executive Director is nearing completion.
7. A Joint Services Committee has been established, composed equally of the public and private sectors, to ensure strong local government cooperation , and to explore how services could be consolidated.
8. The Chamber of Commerce is raising funds from the private sector to establish a business incubator.
9. The Chamber of Commerce has established a Venture Capital Program to assist new businesses and keep alive the strong, entrepreneurial spirit which exists.
10. One of the county's three newspapers prepared a 110-page special edition, entitled "Insight Into FORESIGHT," which helped communicate the strategies to the general public.
11. Major improvements are underway at Hickory Municipal Airport funded by the State, the City of Hickory, Catawba and Burke Counties.
12. The County has updated its subdivision and zoning regulations to increase their compatibility with municipal regulations.
13. The three boards of education have voted to jointly examine a school merger.
14. The City of Hickory used the FORESIGHT process as one of the major components in its successful application for "All American City" designation.

The strategies also recommended the creation of two new groups from the FORESIGHT Committee. First, the Council on Educational Excellence was designed to ensure that the residents of the county understood the value of public education to long-term economic growth. The second was a Joint Services Committee, an ongoing public/private organization, set up to promote the continuation of strong governmental cooperation.

After working for over a year guiding the selection of issues and formation of task forces, the Steering Committee was ready to use its influence to mobilize the community and its resources. Between October of 1986 and January

Intangible Benefits of the FORESIGHT Process

1. Involvement by top business leadership in planning for the county's future.
2. A growing sense of community cooperation.
3. The participation of over 100 community leaders representing a cross-section of the county.
4. A public awareness of potential opportunities and problems.
5. Increased capacity to continue strategic planning in the future.

of 1987, the Steering Committee began meeting with key implementors of the plan. These meetings were very successful, and by February, 1987, the FORESIGHT Committee released its final report in a presentation to the Board of Commissioners.

With the release of its report, the FORESIGHT Committee had completed its original charge. However, committee members unanimously requested authorization to continue for the next eighteen to twenty-four months to monitor the progress of their recommendations in the community. This was an important indication of the process' success — the private sector had taken ownership of the strategies and was committed to carrying them out. The Board of Commissioners gratefully acknowledged this request, authorized the group to continue, and agreed to fund a contract for continuing staff support.

Conclusion

Strategic planning, though potentially popular, is not a "cure-all" for problems of a community and may not be successful if viewed as such. It provides a tool that can broaden the planning process to include community resources normally left untapped. A successful stategic planning process can lead to consensus building and an agenda which helps to ensure a community's future health and vitality. □

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Thomas Lundy has been the County Manager of Catawba County, North Carolina since 1979, and was a charter member of the FORESIGHT Steering Committee. He received his Master of Public Administration Degree from the University of North Carolina at Chapel Hill.

Faculty Research

Joint Projects

Raymond Burby, Edward Kaiser, Dale Whittington, Dana Weist, James Holway, Jack Kartez, and others are nearing completion of two National Science Foundation research projects about planning for natural hazards. In one project, the team is analyzing the impacts of floodplain management on floodplain development, land values, and decisions of developers and landowners. They are measuring changes between 1975 and 1985 in floodplain conditions in a sample of ten communities with hazard management programs and then seeking explanation through statistical analysis of parcel and related data as well as interviews with local officials and a survey of 300 land market decisionmakers. The study documents millions of dollars per year in flood losses averted through land use management programs, and shows that land use management can also result in significant environmental benefits for communities. A book manuscript, *Cities Under Water,* has been submitted to a publisher.

The other project is an exploratory study of risk management strategies to cope with the potentially huge costs of damages to public infrastructure from natural hazards. Nationwide, these losses amount to almost $1 billion per year. Their research is focusing on methods of financing losses, such as loss reserve funds and insurance, as well as various loss prevention techniques. A book-length manuscript, *When Disaster Strikes,* is nearing completion.

Harvey Goldstein and Michael Luger are currently conducting a Ford Foundation-sponsored study of the regional economic development impacts of science and research parks in the U.S., such as Research Triangle Park, North Carolina. Millions of public and private dollars are being invested in the creation of science/research parks to attract technology-oriented businesses to a region and to lead to economic restructuring. Goldstein and Luger are assessing whether these investments do indeed lead to net economic development benefits which would not have occurred otherwise, and how the benefits are distributed among population and economic groups.

They have also recently completed a study of the determinants of local transit agencies' decisions to contract-out transit services to private vendors. A principal research and public policy question was whether federal government labor protection provisions given to local transit workers inhibits contracting out and cost savings. The study concludes that labor protection provisions are not an important barrier to contracting out. Instead, transit managers' attitudes toward innovation, their desire to keep control over a vital public service, and differences in labor costs between public agencies and private vendors are among the most important factors influencing the decision.

Edward Kaiser is writing with **David Godschalk** what will become the fourth edition of *Urban Land Use Planning.* Stuart Chapin established this text for students and reference work for practitioners in 1958. The most recent edition was published in 1979. Kaiser and Godschalk plan to integrate the new technology and methodology of microcomputers and information systems, update the theoretical foundations and the standards, more closely relate the *Hypothetical City Exercise Workbook,* and provide more exercises.

Michael Stegman and William Rohe have been assessing HUD's Public Housing Home Ownership Demonstration, which is designed to test models and procedures for selling public housing units to existing tenants. Seventeen public authorities across the country are participating in the demonstration. A wide range of unit types (single family, townhouse, apartment), financing, and eligibility criteria are being examined. To date, site visits have been made to all 17 cities to interview program officials, collect information from program records and inspect the units being sold. Phone interviews with the new owners are currently underway. A second round of site visits and interviews is scheduled for the summer of 1989. The final report, due January 1990, will address two major issues: (1) what program characteristics and situational factors lead to effective programs; and (2) what effect home ownership has on the former public housing residents.

Individual Projects

Edward Bergman is conducting research on a variety of topics related to regional economic restructuring and comparative European development. Based on a two-year grant from the Economic Development Administration to study industrial transitions, this project has expanded and now includes several related lines of investigation. First is an analysis of industrial transitions underway in urban and rural counties of 17 southern and midwestern states. This effort is intended to provide a thorough account of how local county economies in widely differing circumstances (e.g., urban versus rural, connection to Interstate Highway System, industrial mix) became restructured during the "neutral" business cycle period of 1977 to 1984. The following additional analyses were used to build upon this evidence: (1) the restructuring of state economies in the South Atlantic region from 1969 to 1985; (2) the effects of university research parks and interstate highway systems on the expansion of high-tech industry; (3) industrial and

spatial determinants of counties entering (or leaving) the national metropolitan system; and (4) the impacts of higher education and air service on economic prosperity of the Southern Growth Policy Board region.

These findings contribute to a long-term research program of study devoted to estimating reliable measures of economic development potential in local economies, particularly the individual components of entire metropolitan and peripheral regions. This long-run project is based on Bergman's five-year participation and membership on the National Rural Studies Committee, established with Kellogg Foundation funds to elevate the study of development in small towns and peripheral regions to the status attained in the 1960s by urban studies.

A second line of comparative European research follows from Bergman's 1985-86 Fulbright Fellowship and his direction of a USIA-funded faculty exchange program, which sponsors faculty exchanges between the Department of City and Regional Planning and faculty at the Vienna University of Economics. Comparative research studies underway are: (1) an examination of the views of development planning students at UNC and Vienna University of Economics concerning the ethics of professional planners; (2) an evaluation of the comparative urban innovations responsible for the economic restructuring of Durham City and County during the past two decades; (3) a comparison of U.S. and European experiences with successful economic development of formerly languishing local economies.

Raymond Burby is involved in two projects that focus on planning and financing water and sewer extensions. In an analysis of the "state of practice" in eight southeastern states, Burby found that considerable progress is being made in institutionalizing capital improvements planning among water and sewer agencies. Impact fees, administered through both water and sewer rates and land development ordinances, were prevalent among the techniques for financing water and sewer extensions. One disturbing finding was that the special district—an institutional device becoming increasingly popular among developers as a way of financing infrastructure—is much less likely than city or county water and sewer agencies to coordinate its action with local land use plans.

The second study—currently at the data analysis stage—is examining wastewater management problems faced by coastal localities in a string of states from Delaware to Mississippi. One preliminary finding is that a very high proportion of localities have discharged untreated or undertreated effluent since 1980, and most face very heavy capital investments to bring their systems into compliance with state and federal standards and to serve new growth in population and economic activity.

David Godschalk is currently involved in three research projects. First, he is preparing for the Triangle J Council of Governments a regional geographic information system as stage one of a regional plan. Second, he is preparing an introduction to teaching dispute resolution in planning curricula for the National Institute of Dispute Resolution. Third, he is researching for the Urban Land Institute critical issues and research needs for growth management in the U.S.

Shirley Weiss' research interests include: entrepreneurial decisions for developing the urban environment; the revitalization of central cities; and new town development, planning and implementation. Her latest project, funded by the University Research Council, is titled: "Housing in the Downtown Revitalization Plan: Selected Case Studies." An examination of downtown housing as a part of urban revitalization research is significant in light of the current concern with making cities more livable. New and rehabilitated housing in the central core may or may not be a key factor in restoring the vitality of older downtowns. Research on cities with downtown plans or special programs will reveal the potential for incorporating residential and related services into downtown plans. If housing proves to be a significant independent variable, cities may revise the planning, implementation and management of downtown development districts and thereby improve the livability of the inner city.

Dana Weist's current research focuses on the determinants of state and local government tax structures. Traditional evaluative criteria of public finance, such as equity, efficiency, elasticity, and stability, are considered, as well as the political and legal environments of state and local governments, in trying to explain the great variation in tax instruments used by state and local governments.

Student Research

Departmental Papers

Increasing Homeownership as a Component of the Redevelopment of Edgemont: A Proposal for a Local Lenders' Consortium in the City of Durham
Chris Anderson

Edgemont is a seriously distressed neighborhood near downtown Durham, North Carolina. It suffers from dilapidated housing and inadequate infrastructure. Recently, the city, working with three nonprofit development groups, the Hayti Development Corporation, and the neighborhood residents, agreed to a redevelopment plan designed to keep housing affordable to existing residents and to allow more people to own homes.

Producing affordable housing is an important first step in community development, but allowing residents to own homes should also be an important component in any community development effort. This paper examines the ways in which standard underwriting criteria, such as downpayments and qualifying ratios, impede low- and moderate-income households from receiving home mortgages. As a solution to this problem, the author proposes the creation of a local lenders' consortium in Edgemont, which could establish its own underwriting criteria and give more individualized attention to lower-income loan applicants. Such a consortium would help lenders meet their obligations under the Community Reinvestment Act of 1977, and would help low- and moderate-income families become homeowners.

New Trends in Community Development Policy and Programs
Thomas E. Boydell

This paper examines the community development programs of Winston-Salem and Greensboro, North Carolina between 1980 and 1987 in order to assess the impacts of reductions in federal funds for community development. The two cities were chosen because of their contrasting approaches to financing community development activities. Winston-Salem has more aggressively sought and employed new sources of funds; Greensboro has relied primarily on CDBG entitlement funds.

The research was based on an analysis of the financial audits of both cities and interviews with municipal officials and community leaders. Although several contrasts were apparent, including the changes in total funds committed to community development, sources of funds, depth of expenditures, and number of projects, the research also revealed several similarities in the expenditures and policy decisions of the two cities. The studies produced three conclusions of policy significance: (1) Though some changes in staffing and administration occurred, efficiency and waste were not major issues; (2) Direct strategies were employed to cope with decreasing federal funds, including across-the-board and targeted reductions, increased reliance on program income generated by revolving loan funds and land sales, and the commitment of bond financing; and (3) The need for a wide range of community development activities has not changed, and both cities depend on federal funds to continue those activities.

The Optimal Location for a Family Practice Facility
C. Thomas Dixon

The objective of this research project is to identify the germane characteristics and their relative strengths in the determination of the optimal location for a family practice facility. The characteristics will be surveyed and quantified from the viewpoints of both the physician and the health care consumer. Previous studies have shown a surprising difference between the views of those two groups. An extensive data base of responses will be statistically analyzed, using both multiple regression and A.N.O.V.A., to determine the most important issues in selection of a site for each type of medical office.

Factors influencing the preferences of the consumer—such as points of departure and travel time—will be analyzed to determine patterns and trends. Factors influencing physicians—including preferred number of practitioners in the office, type of practice, and distances to hospitals, pharmacies, and residential areas—will be examined in a similar fashion. From this data, common elements will be merged with elements unique to a specific group in order to describe the ideal location for a particular specialist's office.

This determination is uniquely important, due to the rapid and major evolution in health care delivery systems brought on by: (1) an increasing supply of physicians who wish to maintain a competitive advantage via location; (2) changes arising from the advent of Health Care Maintenance Organizations (HMOs) and Prepaid Care Organizations (PPCs); (3) demographic factors; and (4) the present-day relationship between the physician and the health care consumer.

Citizen Representation in Land Use Planning: A Case Study of Austin, Texas
Lynn Favour

Since its creation as the capitol of Texas in 1839, Austin has enjoyed a history of citizen participation in government decisionmaking. "Austinplan" marks the city's latest effort to involve a large, representative portion of citizens in the development of its comprehensive plan. Backed by a Charter Amendment mandating comprehensive planning, "Austinplan" set out to include some 300 citizens in a com-

plex arrangement of interlocking task groups.

This paper will explore the interrelationship between the structure of this process and its ability to be representative of Austin's citizens. Two questions in particular will be addressed: (1.) Do the citizens who receive the most in exchange for their efforts participate more? and (2.) Has the process' attempts to be representative aided or hindered it in achieving its goals? Specifically, the paper will seek to determine whether planning decisions in Austin remain dominated by political factions or, as a result of the "Austinplan" process, have moved toward a base of community consensus.

Options for City-County Cooperation in Growth Management: A Review and Assessment of Potential Applications to Wake County, North Carolina
Jeremy Ginsburg

In most regions of the United States, the responsibility of planning for land use, zoning, and infrastructure development is fragmented between city and county agencies. However, as major cities sprawl into county areas, there is an increasing need for these two levels of government to cooperate in devising policies for growth management.

The purpose of this paper is to critically review the options for city-county cooperation in growth management, and to apply the findings to Wake County, North Carolina. As the city of Raleigh continues to grow rapidly, annexing large portions of the county, a coordinated effort will be necessary to administer control of and services to the fringe areas.

The paper is divided into three sections. The first section examines the evaluative framework of coordinated growth management strategies and establishes evaluative criteria for supporting alternatives. The next section describes twelve of the most widely used forms of city-county cooperation currently used in the United States. The final section evaluates the city-county growth management alternatives for Raleigh and Wake County.

What Creates Service Jobs?
Jeannine Jacokes

Since World War II, the service sector has been the fastest growing segment of the U.S. economy. However, the rural Tennessee Valley has not shared in this growth. This paper examines this phenomenon by exploring the relationship of population density, per capita income, and manufacturing employment to service employment among the region's 201 counties. The use of three regression models developed for this study led to the conclusion that population density and per capita income were significant explanatory variables of consumer-oriented services. With the notable exception of the resource intensive manufacturing segment, manufacturing was not found to be a significant determinant of producer service employment in the Tennessee Valley.

This paper debunks the myth that services are passive segments of the economy. Instead, it asserts that services play many critical roles in advanced economies and can act as catalyst for development. The service sector holds great promise for developing future job opportunities in rural areas. Several alternative strategies for promoting service employment are highlighted. The best alternative policies are those that build on existing regional resources, strengthen the local business service-infrastructure, and attempt to build linkages between old and new firms in the region. The end result of these development strategies should be to improve the economic well-being of the residents of the Tennessee Valley and to build a more self-sufficient economy.

Economic Restructuring and the New Labor Market Segmentation,
Ellen Morosoff

This paper examines the new labor market segmentation in light of economic change, focusing on the implications for various groups of workers and for labor market planning. The first two sections discuss early theories of labor market segmentation. These theories range from the neoclassical human capital theory, which stresses the characteristics of individual workers, to dual labor market theories, which focus on the influence of the economy as a whole upon the labor market. The third section explores the process of economic restructuring and demographic changes, and the impact of these trends on labor markets. Evidence regarding labor market outcomes in the "new" economy is presented in the fourth section. The conclusions from this section and the theoretical groundwork discussed in Section Two are used in Section Five to propose new ideas about labor market segmentation. A final section considers implications for planning and policy, suggesting ways in which labor market inequities might be reduced.

The Emergence of the Sub-city,
Andrew Perez

This paper presents a two-fold analysis of center city decentralization and suburbanization. A macro overview of 11 MSAs highlights growth areas in U.S. cities and suburban areas. Population and employment intrametropolitan shifts, as well as migration trends, are discussed as components of movements from the center city to the suburbs and vice-versa. Part Two is a micro analysis of Atlanta, Georgia which explains, in detail, the changing (sub)urban landscape of this region. Thirty-three Superdistricts, comprising the seven counties of Atlanta are examined. Shifts in population and employment within these districts pinpoint growing, stabilizing, and retrenching markets. The industrial real estate market is analyzed, as well as office building rates by center city and suburban

location. The final chapter focuses on Atlanta's suburban business centers with an analysis of the Perimeter Center and Cumberland-Galleria complexes.

The Development Feasibility of Innovative Urban Design
David Powell

Have zoning ordinances, subdivision controls, and building codes contributed to a better environment? While these mechanisms have a positive role to play, private real estate interests often use them to their own advantage. Modern architecture has been accused of having more vision than substance, and the assertion of this paper is that the same criticism applies to modern planning. The author addresses the questions, "What kind of environment are we trying to create or enhance? What is our collective goal?"

This paper advocates elevating urban design to a higher standard by integrating urban design issues and theories into the planning and decisionmaking processes of local and regional governments. It discusses the theories and implementation mechanisms of urban design; it explores the development process as practiced by private sector real estate interests; and, finally, it synthesizes these ideas in a detailed case study of Seaside, Florida.

West Virginia's Appalachian State Development Plan
Heidi Walter Powell

Appalachia has long been synonymous with poverty and isolation. The 1965 Appalachian Regional Development Act established the Appalachian Regional Commission (ARC) to improve these conditions. The Act requires each state within the region to submit to ARC an Appalachian State Development Plan, outlining the needs, goals, and investment strategies of the Appalachian counties of each state.

West Virginia is the only state located entirely within Appalachia. It has annually prepared a statewide plan for ARC since 1965. This paper examines those plans submitted between 1975 and 1985 to determine whether they qualify as statewide strategic plans, as defined in planning literature; whether they reflect and address the needs and goals of the Appalachian region as defined by ARC; as well as addressing the needs and goals of the state as revealed by economic indicators and expressed by state residents.

Applying the Job Training Partnership Act to a Rural Area
Valerie VinCola

The Job Training Partnership Act (JTPA) was enacted by the Reagan administration in 1982 to provide federal funds to states for job training programs. Allocation of JTPA funds is based on an area's unemployment rate and its proportion of disadvantaged individuals. The assumption of this initiative is that high unemployment and low income are partially due to low skill levels.

The seven-county region west of Asheville, North Carolina (Region A Council of Governments) serves as a service delivery area for JTPA. The region reflects the statewide pattern of high rural unemployment and low per capita incomes. However, despite high levels of unemployment, Region A has not used a large portion of its annual JTPA allocation. This paper discusses the importance of labor skills to the development of the regional economy. It then examines whether job training programs are an effective policy for addressing the high unemployment rates in Region A.

Dissertations

Economic Development, Migration and Household Composition: Four Villages in Bangladesh
James H. Fisher

The debate over the impacts of integrated rural development programs on developing countries takes numerous forms. Rural development programs are causally linked both to outmigration and retention of the rural populace. The selective effect, i.e. some residents leaving and some staying, gives rise to a need for more detailed analysis. The author asks, "Who are the migrants and nonmigrants and what specific rural development programs have significant selective effects?"

This paper employs multivariate analysis of residential history data collected in four villages in Bangladesh in 1985 to examine this question. The study finds that program components which build on human skills, or on human capital, appear to work in opposite ways than those based on location-specific opportunities. Integrated development in Bangladesh employs both kinds of programs, though the beneficiaries frequently only participate in one of the two basic components. Those benefiting from "people-based" development are migrating out in significantly greater proportion than those who participate in "place-oriented" development.

The Organizational Imperatives of International Development Planning and Academic Complicity in the Violation of Cognitive Respect for Clients
Charles Heying and Francisco Pichon

This paper argues that the present practice of international development planning violates the cognitive respect of its intended clients through a causal chain of linkages which originates in the organizational imperatives of agencies for international development. These organizational imperatives are both internal bureaucratic imperatives and external imperatives caused by a need to justify funding. They result in a preference for pseudo-objective knowledge primarily in the form of aggregate data which can be mathematically and statistically modeled.

The Effects of Floodplain Regulation on Floodplain Land Values and Likelihood of Development
James Holway

This research examines non-structural floodplain management and the use of land use and building regulations to protect people and property from floods. Approximately 20,000 local governments throughout the United States have regulated the use of land in the seven percent of our nation's area that is subject to flooding. Some state and local governments have a long history of floodplain regulation, but most communities began regulating their floodplains in the early 1970s, due to enactments of the of the National Flood Insurance Program.

Despite the number of floodplain management programs, the amount of land being regulated, and the significance of flooding damages, there has been very little evaluation of these programs. This research, which examines actual floodplain land parcels, will help to fill the gap in our knowledge of how land use controls imposed upon floodplains affect the land value, likelihood of development, and the intensity of development.

The author has collected data on floodplain property and local regulations in ten case study communities throughout the U.S. He is currently conducting an analysis of this data using linear, log-linear, and logistic regression on models of urban land value and likelihood of development. This method, which enables one to statistically control the many factors affecting land markets, should isolate the effect of flood hazards and floodplain regulations on those land markets. ☐

Consultants Index

Commentary

Planners and Politics: Reflections on Twenty-seven Years

Jonathan B. Howes, AICP

This is a time of great transition for our country. It is a time of great transition for Chapel Hill and for the region of which we are a part. And it is a time of great transition for the University. First, I will discuss the similarities in national politics between 1961, when I graduated from the Department of City and Regional Planning, and the present. In 1961, a young president had just succeeded a popular two-term incumbent. In 1988, we must decide upon a successor to a popular two-term incumbent.

In 1961, the Kennedy Administration was just beginning, with fresh ideas and, from a planner's point of view, a conviction that the national government could play a positive role in improving the lives of our country's citizens. From that conviction came national efforts in housing and community development, regional revitalization, urban mass transportation and, later, water and air quality. I left Chapel Hill, infused with that spirit, to go to Washington to work in what was then the Housing and Home Finance Agency, and later the Department of Housing and Urban Development. Activities such as these were thought to be appropriate areas of federal intervention and of federal expenditure. But what happened to all of that?

From my personal perspective, the most tragic thing that happened was that John F. Kennedy was unable to complete his term as President and instead came Lyndon Johnson, the Vietnam war, the conflict between guns and butter, and the seeds of the current federal deficit crisis.

In 1988, we must make a choice, though I am not going to predict its outcome. It does bring to mind, however, a passage from Wordsworth:

> The times were big with ominous change, which, night by night, provoked keen struggles, and black clouds of passion raised; but memorable moments intervened, when wisdom, like the Goddess from Jove's brain, broke forth in armour of resplendent words, startling the Synod. Could a youth, and one in ancient story versed, whose breast had heaved under the weight of classic eloquence, sit, see, and hear, unthankful, uninspired?

I don't know that the campaign rhetoric that we now hear is "classic eloquence," but I do know that to govern is to make choices. The fundamental choice facing the newly elected administration in 1988 will be on what to spend the national resource.

The times are more complicated now than in 1961. The world economy is more interrelated. We have enhanced communication capability which has brought into our living rooms the horrors of Vietnam, the inequities of South Africa, the tension on the West Bank, and the trials and tribulations of the workers in Poland. The nuclear spectre remains over us and there is a kind of paralysis of government in the United States. These should be seen as opportunities for reform. As planners, we have a unique contribution to make to the solution of these national problems. What we offer is a world view from a community perspective. Surely we can improve the quality of decision-making and overcome governmental paralysis.

In 1961, the University was an institution with about 10,000 students. It had great tradition and enjoyed great respect in the region. But, except for a few distinguished programs, it was not a nationally-ranked institution.

The Research Triangle Park was just starting. It embraced the novel idea that corporate research and development and corporate headquarters could be linked to the universities to produce jobs for North Carolinians. It succeeded beyond its planners' wildest expectations.

In 1988, we face a different situation. On July 1, the new Chancellor, Paul Hardin from Drew University in New Jersey, will arrive in Chapel Hill. Soon after he comes, he must appoint a new provost, the chief academic officer of the University, and a vice chancellor for business and finance.

The University now has 22,000 students and aspires toward national and international greatness. In the medical school and in the sciences, we have seen spectacular growth over the last several years and we are attaining national prominence.

Similarly, the Research Triangle Park is at a crossroad. It faces the question of whether home-grown enterprise—those small businesses that tend to spin out of universities—have a place in the Park. It also faces many competitors and imitators, not only in this region, but across the country.

Don Bielman, the first head of the Microelectronics Center, and the man who led North Carolina's efforts to bring the Sematech project in semiconductor research to the Triangle, has noted several factors detracting from the region.

- our failure to produce great elementary and secondary education
- our difficulty in building roads
- our problems with environmental quality
- our problems in the universities

He stresses that the region's universities must achieve greatness if we are to compete with states such as Texas, California, and Massachusetts for high-tech development. He comments on how discouraging it is to realize when the competition is over that you were never even in the game. In his view, we in the Triangle were never competitive because we do not have the political representation in Washington necessary to compete effectively with Texas and California.

There is another dimension to determinants of the region's future. If we are to become a region that Royce Hanson calls a "command and control center" in the international economy, we must resolve the growing tension between two fundamentally opposing forces. Those whose goal is to move the university to greatness, diversify its enterprise, and make its activities more complex and significant, have combined with those who would provide continued expansion at the Research Triangle Park and in its surroundings to form one faction.

Opposing them are those who perceive that fulfilling these lofty aspirations will inevitably degrade the quality of life for those who are here and those who will come.

It is a classic confrontation over change, and governmental institutions, including the one of which I am a part, are ill-equipped to guide this change. Yet change will come.

My advice to the new Chancellor—and to the Provost and to the Vice Chancellor—as they seek to guide this institution on the path to greatness is to heed the voices of the community. They must recognize that, without consensus, even long in coming, nothing good can be achieved.

My participation in politics has been demanding, physically tiring, stimulating, exhilarating, depressing, rewarding, frustrating, never dull and always changing. There is room in planning for the full spectrum of participation in public affairs—from research to analysis to policy development to elected office.

Planners have unique perspectives to bring to the political process. They bring a broad view, a strategic approach, a value-based orientation, and a geographically-linked way of thinking. Since planning and politics mix well, I would urge those who are inclined in that direction not to rule out active participation in politics as part of their professional career. ☐

Jonathan B. Howes is the Mayor of the Town of Chapel Hill, North Carolina, and the Director of the Center for Urban and Regional Studies at the University of North Carolina at Chapel Hill. He received his Master's degree in Regional Planning at the University of North Carolina at Chapel Hill in 1961.

Carolina Planning
The University of North Carolina
CB# 3140, New East Building
Chapel Hill, NC 27599-3140

Carolina Planning